

# KELLOGG

## Apparatus and Supplies

### Radio

Receivers  
Loud Speakers  
Apparatus  
Transformers  
Rheostats, Low  
Loss Condensers  
Tube Sockets  
Head Sets  
Accessories  
Fixed Condensers  
Microphones

### Telephone

Telephones  
Magneto and  
Common Battery  
Switchboards  
Magneto, Universal,  
Service, P. B. X.  
Ringing and Power  
Equipment  
Telephone and Switch-  
board Parts  
Line Supplies

Catalog No. 7



**USE** — is the Test

KELLOGG SWITCHBOARD & SUPPLY CO.

Chicago, Illinois

Columbus

Kansas City

San Francisco

Portland

## TO THE PURCHASER

### Guarantee

We guarantee our goods to the extent that we replace within one year from date of invoice those that prove defective when used for the purpose manufactured, but no goods can be credited unless our consent has been obtained before they are returned.

### Terms

Our terms are 30 days net from date of invoice with the exception of a few items of construction material and radio apparatus which carry a discount for cash within ten days from date of invoice. The Terms are clearly noted on acknowledgment of order. Purchasers unknown to us should have satisfactory bank or commercial references accompany their first order when it is desired to have same shipped on open account. A remittance with first order will avoid the delay incident to the necessary credit investigation. Goods may be forwarded by freight with sight draft attached to bill of lading or by express collect on delivery, if a remittance, sufficient to pay express charges both ways, accompanies the order.

### Orders

Orders should be written on order blanks, or on separate sheets, to avoid delay to both order and reply.

### Changes and Cancellations

Owing to the special stock conditions, etc., changes and cancellations of orders once entered cannot be made without our consent and on terms that will make good all loss and expenses incurred in preparing the order for shipment.

### Shipments

Shipments are made according to directions received with orders. In their absence we will use our best judgment in making selections of routes. State whether we shall ship by freight, express or parcel post. It is our endeavor to ship standard goods immediately upon receipt of orders, and customers will greatly assist us in making prompt shipments if they will order by number to save delay. Also please mention number of the catalog.

### Claims for Breakage and Non-Delivery

Our goods are carefully packed by experienced packers, and each article is checked three times before reaching the packing case.

Receipts from the Transportation Co. clearly specify that shipments were received in good condition and we, therefore, do not hold ourselves responsible for any loss or damage sustained in transit.

Claims for non-delivery, etc., should be made promptly against the Transportation Co.

If we are notified of such claims, we will gladly lend our assistance to secure a satisfactory adjustment for the customer.

On parcel post shipments claims are to be made to us as we insure the material and make adjustments.

### Claims

Claims for shortage should be made promptly upon receipt of goods and should be accompanied by the packer's ticket which is placed in each case.

Claims for clerical errors should be accompanied by a reference to our invoice number.

### Returning Goods

No goods should be returned for credit or exchange without our consent.

Long experience has shown that proper understanding of each case saves transportation expense, delays and misunderstanding and avoids returning satisfactory goods because of mistaken impression, etc.

Name and address of shipper should be marked plainly on all packages returned for credit, exchange or repairs, and a proper notice of shipment should be sent to the Kellogg Co. We stand ready at all times to rectify mistakes we make, and without cost to our customers, but under no circumstances should goods be returned without first consulting us for shipping instructions.

No credit for labor expense involved in the repair of defective or damaged goods will be allowed. If goods are defective, the measure of damage is the price of the defective goods only.

### Marine and Parcel Post Insurance

Unless otherwise directed, we reserve the right to insure against non-delivery all shipments made by steamer or parcel post, for which a nominal charge will be made to cover cost of this service.

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# Kellogg Telephones Magneto and Common Battery Types

Catalog No. 7



Telephone Equipment that Gives  
a High Type of Service Over the  
Longest Period of Time.

KELLOGG SWITCHBOARD & SUPPLY COMPANY  
1066 W. Adams St. Chicago, Ill.

With Kellogg  
Equipment

**Use**—Is the Test

ONE reason for Kellogg switchboard superiority in every installation is, in part, due to the exceptional, reliable, commercial transmission and service of the Kellogg telephones used throughout these exchanges.

The Kellogg Magneto wall phone is considered a standard instrument for the smaller towns. These standard telephones have been serving Magneto subscribers for the past twenty-eight years with satisfaction.

Kellogg Common Battery sets are compact, durable and handsome in appearance.

Our policy is to build the best possible class of equipment for the type of service for which it is to be used.

Our twenty-eight years' experience in manufacturing switchboards, telephones and apparatus is an extremely valuable asset in the production of this equipment.

Kellogg telephones of today are based upon the experience of operating telephone companies as well as our own and are built with the idea of furnishing the subscriber with an equipment that will give him continual, uninterrupted service; and the manager a phone that will require the least maintenance and give its high grade service over the longest period of time.

The code numbers given on the following pages are of our standard sets, and, if your requirements are not listed herein, we will appreciate your writing for any information.

## A Few Reasons for the Long, Active Life and Dependability of Kellogg Instruments

Kellogg Hookswitch is of the short compact type with removable hook. The simple, sturdy design makes this a highly efficient hookswitch. The contact metal springs are of the correct length for proper tension and are equipped with special contacts. The escutcheon plate is heavily black enameled. Micarta is used exclusively for insulation purposes.

Kellogg Receivers are of the bipolar non-adjustable type. Permanent magnets are of the correct form and of lasting strength. Pole pieces are made of carefully annealed Norway iron and held secure by bolts that fasten the supporting bridge in place. The diaphragm made of perfectly flat ferrotype metal of the proper thickness is held in accurate position to respond freely and accurately to the voice currents. In design the Kellogg Receiver secures loudness and clearness of tone and excellent articulation.

Kellogg Reverse Type Solid Back Transmitters are far reaching and superior for long distance as well as local work. Diaphragm made from hard drawn aluminum with carbon retaining cup formed in the center of its face. Highest grade carbon of correct size. Small number of parts, accurately made from the best material obtainable to insure long life and minimum chances for trouble. Will not pack. Minimum battery consumption. Not affected by foreign sounds or noises. Over three million in use today giving unequalled service.

Kellogg Condensers for magneto telephones have a one-half M. F. capacity, with a minimum resistance of 10,000 ohms. This allows the receiver to be off the hook without crippling the ringing service of the heavily loaded lines.

Kellogg Induction Coils are wound to the proper resistance, so they will step up the out-going currents the necessary amount to carry them over long distance lines without distortion, but will not reduce the strength of the incoming voice currents.

Kellogg Ringers do not need adjusting. They are the most sensitive ringers made. Cores and armatures are made from the highest grade annealed Norway iron. Spools are carefully insulated and wound with Kellogg silk insulated enameled copper wire. The thin strip of metal between pole pieces and armature prevents any possible tendency towards sticking. Length of stroke and armature air gap correct, and remain so during the entire life of ringer. Gongs are made of the best material for that purpose, rich in tone, will not crack or become dead through service, they are heavily black enameled and of the concentric type.

Kellogg Generators are "built like a watch;" have large armature and greater winding space than other types that we know of; field magnets built with great care; our method of forming magnets, shapes them accurately without injury; bars thoroughly protected against rust; end plates of pressed brass; springs properly insulated; wheels and gears accurately cut and machined; generator handle of one piece, armature frame securely held; minimum number of parts offering great reliability and long life in all types of service.

**KELLOGG SWITCHBOARD & SUPPLY COMPANY**

1066 West Adams Street

Chicago, Illinois

## TO THE PURCHASER

### Guarantee

We guarantee our goods to the extent that we replace within one year from date of invoice those that prove defective when used for the purpose manufactured, but no goods can be credited unless our consent has been obtained before they are returned.

### Terms

Our terms are 30 days net from date of invoice with the exception of a few items of construction material and radio apparatus which carry a discount for cash within ten days from date of invoice. The Terms are clearly noted on acknowledgment of order. Purchasers unknown to us should have satisfactory bank or commercial references accompany their first order when it is desired to have same shipped on open account. A remittance with first order will avoid the delay incident to the necessary credit investigation. Goods may be forwarded by freight with sight draft attached to bill of lading or by express collect on delivery, if a remittance, sufficient to pay express charges both ways, accompanies the order.

### Orders

Orders should be written on order blanks, or on separate sheets, to avoid delay to both order and reply.

### Changes and Cancellations

Owing to the special stock conditions, etc., changes and cancellations of orders once entered cannot be made without our consent and on terms that will make good all loss and expenses incurred in preparing the order for shipment.

### Shipments

Shipments are made according to directions received with orders. In their absence we will use our best judgment in making selections of routes. State whether we shall ship by freight, express or parcel post. It is our endeavor to ship standard goods immediately upon receipt of orders, and customers will greatly assist us in making prompt shipments if they will order by number to save delay. Also please mention number of the catalog.

### Claims for Breakage and Non-Delivery

Our goods are carefully packed by experienced packers, and each article is checked three times before reaching the packing case.

Receipts from the Transportation Co. clearly specify that shipments were received in good condition and we, therefore, do not hold ourselves responsible for any loss or damage sustained in transit.

Claims for non-delivery, etc., should be made promptly against the Transportation Co.

If we are notified of such claims, we will gladly lend our assistance to secure a satisfactory adjustment for the customer.

On parcel post shipments claims are to be made to us as we insure the material and make adjustments.

### Claims

Claims for shortage should be made promptly upon receipt of goods and should be accompanied by the packer's ticket which is placed in each case.

Claims for clerical errors should be accompanied by a reference to our invoice number.

### Returning Goods

No goods should be returned for credit or exchange without our consent.

Long experience has shown that proper understanding of each case save transportation expense, delays and misunderstandings and avoids returning satisfactory goods because of mistaken impression, etc.

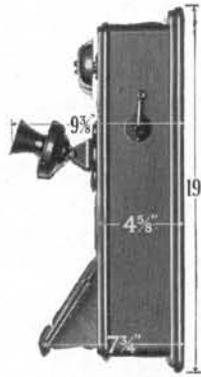
Name and address of shipper should be marked plainly on all packages returned for credit, exchange or repairs, and a proper notice of shipment should be sent to the Kellogg Co. We stand ready at all times to rectify mistakes we make, and without cost to our customers, but under no circumstances should goods be returned without first consulting us for shipping instructions.

No credit for labor expense involved in the repair of defective or damaged goods will be allowed. If goods are defective, the measure of damage is the price of the defective goods only.

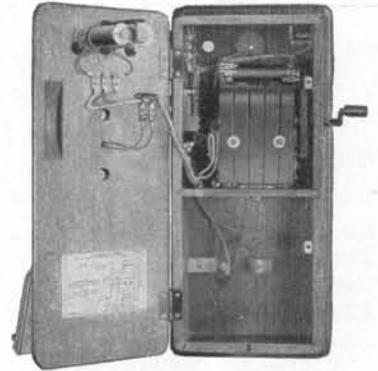
### Marine and Parcel Post Insurance

Unless otherwise directed, we reserve the right to insure against non-delivery all shipments made by steamer or parcel post, for which a nominal charge will be made to cover cost of this service.

## TELEPHONES Magneto Wall Type



Side View



Open View

The Kellogg Magneto Telephone is equipped with a powerful generator, non-adjustable, non-sticking ringer, short lever hook switch with removable hook, famous Kellogg reverse type transmitter, and bakelite mouth piece, short knuckle transmitter arm, sensitive receiver with bakelite shell. Exposed metal parts are handsomely finished in black enamel, and the cabinets are of thoroughly seasoned quarter-sawed oak made in our own cabinet factory. Cabinets are drilled for standard sizes of generators and have either straight line or harmonic ringers. Wiring is provided for a condenser in the receiver circuit, and the ringer can be connected across the line or from either side to ground for divided circuit and 8-party harmonic ringing.

Batteries and mounting screws are not furnished except when specified but all of the four and five bar sets have as a part of the regular equipment the Kellogg Battery Saver, which enables patrons to listen without using battery. A prefix F indicates that the receiver binding post will take either spade or spike cord tips, but spade tips are regularly furnished unless otherwise specified. Receiver Cords are 36" long finished in brown. The following codes cover the most popular types of three, four and five bar instruments, but telephones can be furnished to meet any requirements that special conditions may demand.

### Straight Line Ringers

| Code No. | Ringer    |          | Generator |         | Transmitter | Arm | Hook Switch | Ind. Coil | Receiver |
|----------|-----------|----------|-----------|---------|-------------|-----|-------------|-----------|----------|
|          | Ohms Res. | Code No. | No. Bars  | Code N. |             |     |             |           |          |
| F2809    | 1000      | 78-A     | 3         | 15      | 64-LC       | 50  | 103         | 28-C      | F41-A    |
| F2811    | 1600      | 78-D     | 4         | 22      | 64-LC       | 50  | 103         | 28-C      | F41-A    |
| F2812    | 1600      | 78-D     | 5         | 53      | 64-LC       | 50  | 103         | 28-C      | F41-A    |
| F2859    | 2500      | 78-G     | 5         | 53      | 64-LC       | 50  | 103         | 28-C      | F41-A    |

### Straight Line Ringers with Condenser in Secondary

No. 28 condenser wired in receiver circuit. Enables operator or subscriber to ring on a heavily loaded farm line when a number of receivers are down.

| Code No. | Ringer    |          | Generator |         | Transmitter | Arm | Hook Switch | Ind. Coil | Condenser | Receiver | Remarks          |
|----------|-----------|----------|-----------|---------|-------------|-----|-------------|-----------|-----------|----------|------------------|
|          | Ohms Res. | Code No. | No. Bars  | Code N. |             |     |             |           |           |          |                  |
| F2815    | 1600      | 78-D     | 4         | 22      | 64-LC       | 50  | 103         | 28-C      | 28        | F41-A    | Cond. in sec'd'y |
| F2816    | 1600      | 78-D     | 5         | 53      | 64-LC       | 50  | 103         | 28-C      | 28        | F41-A    | Cond. in sec'd'y |
| F2880    | 2500      | 78-G     | 5         | 53      | 64-LC       | 50  | 103         | 28-C      | 28        | F41-A    | Cond. in sec'd'y |

## TELEPHONES

### Magneto Wall Type

#### Straight Line Ringer—P. & A. C. Generator and Push Button

For calling central secretly on grounded or metallic lines. Requires no special wiring at switchboard. Either pulsating or alternating current will operate the ring off drop. Many different kinds of telephones can be used on the same line if desired and if only a part are secret calling they will work just as satisfactorily as if all were the same type.

| Code No.     | Ringer |      | Generator |      | Trans. | Arm | Hook Switch | Ind. Coil | Push Button | Cond. | Rec.  |
|--------------|--------|------|-----------|------|--------|-----|-------------|-----------|-------------|-------|-------|
|              | Res.   | Code | Bars      | Code |        |     |             |           |             |       |       |
| <b>F2819</b> | 1600   | 78-D | 4         | 26   | 64-LC  | 50  | 103         | 28-C      | 5           | 28    | F41-A |
| <b>F2820</b> | 1600   | 78-D | 5         | 59   | 64-LC  | 50  | 103         | 28-C      | 5           | 28    | F41-A |
| <b>F2860</b> | 2500   | 78-G | 5         | 59   | 64-LC  | 50  | 103         | 28-C      | 5           | 28    | F41-A |

#### Grounding Key for Metallic Lines Only with No. 28 Cond. in Rec. Ckt.

The drop at the Central office must have one side wired to ground and all telephones on the line must be equipped with grounding key.

| Code No.     | Ringer |      | Generator |      | Trans. | Arm | Hook Switch | Ind. Coil | Push Button | Cond. | Rec.  |
|--------------|--------|------|-----------|------|--------|-----|-------------|-----------|-------------|-------|-------|
|              | Res.   | Code | Bars      | Code |        |     |             |           |             |       |       |
| <b>F2823</b> | 1600   | 78-D | 4         | 22   | 64-LC  | 50  | 103         | 28-C      | 5           | 28    | F41-A |
| <b>F2824</b> | 1600   | 78-D | 5         | 53   | 64-LC  | 50  | 103         | 28-C      | 5           | 28    | F41-A |
| <b>F2881</b> | 2500   | 78-G | 5         | 53   | 64-LC  | 50  | 103         | 28-C      | 5           | 28    | F41-A |

#### Selective Ringing-Harmonic-4 and 8 Party

Telephones used with this system are equipped with ringers having a frequency of 30, 42, 54 and 66 cycles per second which is especially desirable on four and eight party selective magneto lines. There is no danger from cross rings when the subscribers ring Central. Specify parties desired.

| Code No.     | Ringer  |      | Generator |      | Trans. | Arm | Hook Switch | Ind. Coil | Rec.  |
|--------------|---------|------|-----------|------|--------|-----|-------------|-----------|-------|
|              | Res.    | Code | Bars      | Code |        |     |             |           |       |
| <b>F2807</b> | 4-party | 73-A | 3         | 15   | 22-LC  | 42  | 103         | 28-C      | F41-A |

#### Selective Ringing-Harmonic 4-Party (Old System)

Condenser in ringer circuit and special three bar generator. Ringers have frequencies of  $16\frac{2}{3}$ ,  $33\frac{1}{3}$ , 50 and 66 cycles per second. Specify parties desired.

| Code No.     | Ringer  |      | Generator |      | Trans. | Arm | Hook Switch | Ind. Coil | Cond. | Rec.                      |
|--------------|---------|------|-----------|------|--------|-----|-------------|-----------|-------|---------------------------|
|              | Res.    | Code | Bars      | Code |        |     |             |           |       |                           |
| <b>F2873</b> | 4-party | 72-A | 3         | 66   | 64-LC  | 50  | 103         | 28-C      | 78    | F41-A Cond. in secondary. |

#### Biased Ringer for 4-Party Selective Systems

Using positive and negative pulsating current.

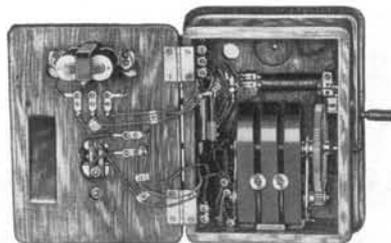
| Code No.     | Ringer |      | Generator |      | Trans. | Arm | Hook Switch | Ind. Coil | Rec.  |
|--------------|--------|------|-----------|------|--------|-----|-------------|-----------|-------|
|              | Res.   | Code | Bars      | Code |        |     |             |           |       |
| <b>F2808</b> | 1000   | 79-A | 3         | 15   | 64-LC  | 50  | 103         | 28-C      | F41-A |



## TELEPHONES

### Magneto Residence Type

These sets are intended for use where a smaller telephone than the regular compact wall set is desired or required because of limited mounting space.



The cabinet backboard panel measures  $7\frac{1}{2}$ " wide by 10" long. No writing shelf is furnished and no provision is made for batteries, otherwise they are of the same sturdy construction as the standard magneto wall telephone.

With this type of telephone, it is necessary to mount the batteries outside, either in the basement or in a separate battery box. For battery boxes for these sets, see Supply Catalog.

We are listing here a few of the more popular types but can furnish any other combinations that may be required.

### Straight Line Ringer

| Code No. | Ringer |      | Generator |       | Trans. | Arm | Hook Switch | Ind. Coil | Rec.  |
|----------|--------|------|-----------|-------|--------|-----|-------------|-----------|-------|
|          | Res.   | Code | Bars      | Code  |        |     |             |           |       |
| F1809    | 1000   | 78-A | 3         | 15-AC | 64-LC  | 41  | 103         | 28-C      | F41-A |
| F1812    | 1600   | 78-D | 5         | 53-AC | 64-LC  | 41  | 103         | 28-C      | F41-A |

### Straight Line Ringer with Condenser in Sec'd'y

No. 28 condenser wired in receiver circuit. Enables operator or subscriber to ring on a heavily loaded farm line when a number of receivers are down.

| Code No. | Ringer |      | Generator |       | Trans. | Arm | Hook Switch | Ind. Coil | Cond. | Rec.  |
|----------|--------|------|-----------|-------|--------|-----|-------------|-----------|-------|-------|
|          | Res.   | Code | Bars      | Code  |        |     |             |           |       |       |
| F1816    | 1600   | 78-D | 5         | 53-AC | 64-LC  | 41  | 103         | 28-C      | 28    | F41-A |

### Biased Ringer for Four-Party Selective Systems

Using positive and negative pulsating current.

|       |      |      |   |       |       |    |     |      |       |
|-------|------|------|---|-------|-------|----|-----|------|-------|
| F2805 | 1000 | 79-A | 3 | 15-AC | 64-LC | 41 | 103 | 28-C | F41-A |
|-------|------|------|---|-------|-------|----|-----|------|-------|

### Selective Ringing—Harmonic—4 and 8 Party

Telephones used with this system are equipped with ringers having a frequency of 30, 42, 54 and 66 cycles per second, which is especially desirable on four and eight party selective magneto lines. There is no danger from cross rings when the subscribers ring Central.

|       |         |      |   |       |       |    |     |      |       |
|-------|---------|------|---|-------|-------|----|-----|------|-------|
| F2804 | 4-party | 73-A | 3 | 15-AC | 64-LC | 41 | 103 | 28-C | F41-A |
|-------|---------|------|---|-------|-------|----|-----|------|-------|

### Magneto Residence Grabaphone Type

#### Straight Line Ringer

These sets consist of a No. 12 LC Grabaphone and Generator Box containing the generator, ringer, induction coil and hook switch. We are listing a few of the popular equipments but can furnish this style of instrument to meet any condition.



| Code No. | Ringer |      | Generator |      | Hook Switch | Ind. Coil | Graba-<br>phone |
|----------|--------|------|-----------|------|-------------|-----------|-----------------|
|          | Res.   | Code | Bars      | Code |             |           |                 |
| F1809-G  | 1000   | 78-A | 3         | 15   | 110         | 28-C      | F12-LC          |
| F1812-G  | 1600   | 78-D | 5         | 53   | 110         | 28-C      | F12-LC          |

### Straight Line Ringer with Condenser in Secondary

No. 28 condenser wired in receiver circuit. Enables operator or subscriber to ring on a heavily loaded farm line when a number of receivers are down.

|         |      |      |   |    |     |      |    |        |
|---------|------|------|---|----|-----|------|----|--------|
| F1816-G | 1600 | 78-D | 5 | 53 | 110 | 28-C | 28 | F12-LC |
|---------|------|------|---|----|-----|------|----|--------|

## TELEPHONES Magneto Desk Sets



Desk Stand Type

The Kellogg desk stand has been carefully designed to reduce maintenance to a minimum. It is graceful in appearance and light enough in weight to handle with ease, is sufficiently rugged to withstand ordinary knocks and continuous service. It is the only one on the market that is provided with a perfect transmitter adjustment which never requires attention, the transmitter back does not become loose on its mounting, as it is part of the lug.

The capital is non-breakable and holds the transmitter securely in any position. Instead of using an ordinary japan finish over the upright which always chips or wears off, a heavy Kellogg Bakelite protection tube is used, insuring a lasting finish that does not discolor, crack or chip.

The base is of steel, treated to prevent rusting after which it is given a heavy coat of dull, black enamel. It is equipped with a heavy felt ring which is securely held in a groove, encircling the outer edge of the base. This felt is firmly held in position by prongs and protects the furniture as well as absorbing the shock of the impact when the stand is slammed down on the table.

The springs are of German silver and with the connecting rack are located in an accessible manner in the base. The hookswitch has a very short action, yet a free movement of the contact springs is effected. All corners and sharp edges are rounded off, and the hook fork so formed that the receiver does not fall off should the stand be tilted. The standard finish is in a permanent black enamel.

No rattle to hookswitch. Weight is in the right place. Accessibility and practicability in arrangement of the apparatus in base of stand. Absolute, unequalled transmission for either short or long distances.

Desk stands with either three or four conductor cords may be used but three conductor are regularly furnished. The code numbers listed below include the more popular types and each consists of a complete stand, receiver and desk set box. Mounting screws and batteries are not furnished unless specified. Cords are regularly furnished with brown mercerized outer braid and spade terminals.

The superiority of this stand has caused the leading telephone companies to adopt it as a standard for long distance, as well as local work.

### Straight Line Ringer—Induction Coil

| Set Code No. | Desk Stand |           |        | Desk Set Box |        |        |                  | Ind. Coil                | Push Button |
|--------------|------------|-----------|--------|--------------|--------|--------|------------------|--------------------------|-------------|
|              | Code       | Conductor | Cord   | Rec.         | Trans. | Code   | Ringer           |                          |             |
| F-9          | F-84       | 3         | F-150D | F-41A        | 64LC   | F-2328 | No. 78A-1000 ohm | No. 15-3 bar alternating | 28          |
| F-12         | F-84       | 3         | F-150D | F-41A        | 64LC   | F-2361 | No. 78D-1600 ohm | No. 53-5 bar alternating | 28          |
| F-59         | F-84       | 3         | F-150D | F-41A        | 64LC   | F-2362 | No. 78G-2500 ohm | No. 53-5 bar alternating | 28          |

### Straight Line Ringer—Induction Coil-Condenser

No. 28 condenser wired in receiver circuit. Enables operator or subscriber to ring on a heavily loaded farm line when a number of receivers are down.

|      |      |   |        |       |      |        |                  |                          |     |       |
|------|------|---|--------|-------|------|--------|------------------|--------------------------|-----|-------|
| F-16 | F-84 | 3 | F-150D | F-41A | 64LC | F-2370 | No. 78D-1600 ohm | No. 53-5 bar alternating | 28C | 28½MF |
| F-80 | F-84 | 3 | F-150D | F-41A | 64LC | F-2371 | No. 78G-2500 ohm | No. 53-5 bar alternating | 28C | 28½MF |

### Selective Ringing. Harmonic—4 and 8 Party

Telephones used with this system are equipped with ringers having a frequency of 30, 42, 54 and 66 cycles per second, which is especially desirable on 4 and 8 party selective magneto lines. There is no danger from cross rings when the subscribers ring central. Specify parties desired.

|     |      |   |        |       |      |      |                 |                          |    |
|-----|------|---|--------|-------|------|------|-----------------|--------------------------|----|
| F-7 | F-84 | 3 | F-150D | F-41A | 64LC | 2326 | No. 73A-4-party | No. 15-3 bar alternating | 28 |
|-----|------|---|--------|-------|------|------|-----------------|--------------------------|----|

### Biased Ringer for 4-Party Selective Systems

Using Positive and Negative Pulsating Current.

|     |      |   |        |       |      |      |                  |                          |    |
|-----|------|---|--------|-------|------|------|------------------|--------------------------|----|
| F-8 | F-84 | 3 | F-150D | F-41A | 64LC | 2327 | No. 79A-1000 ohm | No. 15-3 bar alternating | 28 |
|-----|------|---|--------|-------|------|------|------------------|--------------------------|----|

### Magneto Desk Stands

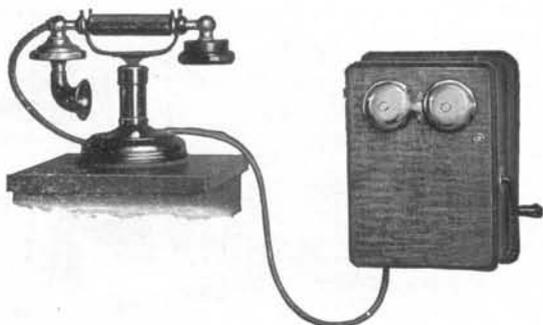
The following numbers cover stands only but include receivers. One of these stands with a No. 85 induction coil makes an excellent extension set.

#### Magneto Type

| Code No. | Conductors | Cords   |         | Rec.    | Trans. | Where Used   |
|----------|------------|---------|---------|---------|--------|--|
|          |            | D. S.   | Rec.    |         |        |  |
| F28      | 4          | F102-D  | F98-TR  | F41-A   | 64-LC  | Magneto boxes, old style.  |
| F67      | 4          | F102-D  | F98-TR  | 46 Type | 64-L   | Dispatching sets, head receivers.                                      |
| F84      | 3          | F150-D  | F98-TR  | F41-A   | 64-LC  | Magneto boxes, new style.  |
| F85-B    | 4          | F241-RD | 248-RTR | F41-A   | 34-L   | Dispatching sets. Same as No. 28 but with L trans. and R R type cords. |

## TELEPHONES

### Magneto Grabophone Desk Sets



Grabophone Type

The grabophone desk set consists of a generator box, No. F115 cradle desk stand with 72" 3 conductor cord, No. 11-L.C. grabophone with 48" 4-conductor cord. The No. 115 stand is interchangeable with the No. 84 and old No. 28 desk stand and can be used with any standard generator box. Grabophones are becoming rapidly more popular for offices and homes. Their great convenience lies in the ability of the user to move about without getting away from the transmitter. The grabophone also forces the user to talk directly into

the transmitter which is located at exactly the right distance from the lips. We are listing some of the more popular combinations but can furnish any other types that special conditions may demand. Cords are regularly furnished with brown mercerized outer braid and spade terminals.

### Straight Line Ringer

| Set Code No. | Desk Stand |           |        |        | Desk Set Box |                  |                          |           |
|--------------|------------|-----------|--------|--------|--------------|------------------|--------------------------|-----------|
|              | Code       | Conductor | Cord   | Rec.   | Code         | Ringer           | Generator                | Ind. Coil |
| <b>F-9G</b>  | F-115      | 3         | F-150D | F-11LC | F-2328       | No. 78A-1000 ohm | No. 15-3 bar alternating | 28C       |
| <b>F-12G</b> | F-115      | 3         | F-150D | F-11LC | F-2361       | No. 78D-1600 ohm | No. 53-5 bar alternating | 28C       |
| <b>F-59G</b> | F-115      | 3         | F-150D | F-11LC | F-2362       | No. 78G-2500 ohm | No. 53-5 bar alternating | 28C       |

### Straight Line Ringer—Condenser

No. 28 condenser wired in receiver circuit. Enables operator or subscriber to ring on a heavily loaded farm line when a number of receivers are down.

| Set Code No. | Desk Stand |           |        |        | Desk Set Box |                  |                          |             |
|--------------|------------|-----------|--------|--------|--------------|------------------|--------------------------|-------------|
|              | Code       | Conductor | Cord   | Rec.   | Code         | Ringer           | Generator                | Ind. Coil   |
| <b>F-16G</b> | F-115      | 3         | F-150D | F-11LC | F-2370       | No. 78D-1600 ohm | No. 53-5 bar alternating | 28C 28-½ MF |
| <b>F-80G</b> | F-115      | 3         | F-150D | F-11LC | F-2371       | No. 78G-2500 ohm | No. 53-5 bar alternating | 28C 28-½ MF |

### Magneto Extension Telephones

#### F2827 Wall Grabophone Extension Set

This set consists of a neat steel box equipped with No. 98 hook switch, No. 28-C induction coil and No. F12-LC grabophone, making a complete extension telephone by the addition of two dry cells. The box is only 2 inches deep, 5 inches wide and 6 inches high and can be very conveniently mounted on a desk, on the side of a bed or any other place where it is desirable to have a telephone within handy reach.



No. F2827

## TELEPHONES

### No. 600 Magneto Bracket Telephone Complete With Arm



Bracket Telephone with Universal Attachment on No. 2 Mounting

Kellogg bracket telephones consist of our standard desk stands without the base, attached to bracket arms in the regular manner.

These sets are convenient for those who have constant use for desk telephones.

When it is desired to give the Bracket a vertical movement as well as a horizontal, a Universal attachment may be obtained at a small additional cost, which transforms any Standard bracket into a Universal bracket.

Bracket telephone includes a standard No. 8 telephone arm and mounting. This Arm is durably and neatly constructed and guaranteed for five years.

Kellogg Bracket phones require no other attachments or complications.

The Kellogg Telephone on the Arm is always within reach—never in the way.



Bracket Telephone with No. 2 Mounting.

| Set Code No. | Bracket Telephone |           |        |       |        | Desk Set Box |              |           |           |
|--------------|-------------------|-----------|--------|-------|--------|--------------|--------------|-----------|-----------|
|              | Code              | Conductor | Cord   | Rec.  | Trans. | Code         | Ringer       | Generator | Ind. Coil |
| 609          | 684               | 3         | F-150D | F-41A | 64L    | 2328         | 78A-1000 ohm | 15-3 bar  | 28        |
| 612          | 684               | 3         | F-150D | F-41A | 64L    | 2361         | 78D-1600 ohm | 53-5 bar  | 28        |

Other combinations can be furnished when required.

### Mountings



No. 1

With each Bracket Telephone, we supply a mounting with which it may be attached to the desk or table. Below you will find three types of mountings. If you do not find a type mounting which will suit your particular need, write us and we will be glad to supply you with that type which you desire.

No. 1 Mounting especially designed to be attached to the side of a flat top desk or table. It can also be used on the side of a roll top desk.

No. 2 Mounting is used on a flat top table.

No. 5 Mounting is used on the side of a flat top desk or table.

The No. 2 Mounting is standard and is regularly furnished when either the Standard or Universal type arm is ordered, unless otherwise specified.



Universal Attachment



No. 5



No. 2

## TELEPHONES

### Common Battery Steel Residence Type



This popular type of common battery telephone is made entirely of mild planished steel, with a heavy black enamel finish. It consists of but two parts—back-plate and cover, making every part accessible when the cover is open. It is equipped with standard Kellogg apparatus and can be used interchangeably as a party or straight line set. All condensers in talking circuits are 2 M. F.

#### Induction Coil Circuit Straight Line Ringer

| Code No.* | Ringer |           | Trans. | Arm | Hook Switch | Ind. Coil | Cond. | Rec.  | Remarks                |
|-----------|--------|-----------|--------|-----|-------------|-----------|-------|-------|------------------------|
|           | Code   | Ohms Res. |        |     |             |           |       |       |                        |
| F742-SA   | 84-A   | 1000      | 64-C   | 39  | 113         | 79-A      | 16    | F41-A | Ringer to ground post. |

#### Induction Coil Circuit Biased Ringers

| Code No. | Ringer |           | Trans. | Arm | Hook Switch | Ind. Coil | Cond. | Rec.  | Remarks                |
|----------|--------|-----------|--------|-----|-------------|-----------|-------|-------|------------------------|
|          | Code   | Ohms Res. |        |     |             |           |       |       |                        |
| F742-BA  | 79-A   | 1000      | 64-C   | 39  | 113         | 79-A      | 16    | F41-A | Ringer to ground post. |

#### Harmonic Ringers (Old Frequencies)

16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50 and 66 $\frac{2}{3}$  cycles

| Code No. | Ringer |           | Trans. | Arm | Hook Switch | Ind. Coil | Cond. | Rec.  | Remarks                |
|----------|--------|-----------|--------|-----|-------------|-----------|-------|-------|------------------------|
|          | Code   | Ohms Res. |        |     |             |           |       |       |                        |
| F742-HA  | 72-A   | 4-party   | 64-C   | 39  | 113         | 79-A      | 16    | F41-A | Ringer to ground post. |

#### Harmonic Ringers (New Frequencies)

30, 42, 54 and 66 cycles.

| Code No. | Ringer |           | Trans. | Arm | Hook Switch | Ind. Coil | Cond. | Rec.  | Remarks                |
|----------|--------|-----------|--------|-----|-------------|-----------|-------|-------|------------------------|
|          | Code   | Ohms Res. |        |     |             |           |       |       |                        |
| F742-HB  | 73-A   | 4-party   | 64-C   | 39  | 113         | 79-A      | 16    | F41-A | Ringer to ground post. |

### Common Battery Oak Residence Type



For those desiring a wood set in preference to steel, we have an exceptionally fine oak telephone, that is compact, trim in appearance, and positive in operation. The heavy quarter-sawn, oak cabinet is fully as attractive as the steel set.

The apparatus is accessible with plenty of room for connections and binding posts. It is equipped with Kellogg standard apparatus. All condensers in talking circuits are 2MF.

#### Induction Coil Circuit Straight Line Ringer

| Code No. | Ringer |           | Trans. | Arm | Hook Switch | Ind. Coil | Cond. | Rec.  | Remarks                |
|----------|--------|-----------|--------|-----|-------------|-----------|-------|-------|------------------------|
|          | Code   | Ohms Res. |        |     |             |           |       |       |                        |
| F729-SA  | 84-A   | 1000      | 64-C   | 41  | 103         | 79-A      | 16    | F41-A | Ringer to ground post. |

#### Biased Ringer

| Code No. | Ringer |           | Trans. | Arm | Hook Switch | Ind. Coil | Cond. | Rec.  | Remarks                |
|----------|--------|-----------|--------|-----|-------------|-----------|-------|-------|------------------------|
|          | Code   | Ohms Res. |        |     |             |           |       |       |                        |
| F729-BA  | 79-A   | 1000      | 64-C   | 41  | 103         | 79-A      | 16    | F41-A | Ringer to ground post. |

#### Harmonic Ringer (Old Frequencies)

16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50 and 66 $\frac{2}{3}$  cycles.

| Code No. | Ringer |           | Trans. | Arm | Hook Switch | Ind. Coil | Cond. | Rec.  | Remarks                |
|----------|--------|-----------|--------|-----|-------------|-----------|-------|-------|------------------------|
|          | Code   | Ohms Res. |        |     |             |           |       |       |                        |
| F729-HA  | 72-A   | 4-party   | 64-C   | 41  | 103         | 79-A      | 16    | F41-A | Ringer to ground post. |

#### Harmonic Ringer (New Frequencies)

30, 42, 54 and 66 cycles.

| Code No. | Ringer |           | Trans. | Arm | Hook Switch | Ind. Coil | Cond. | Rec.  | Remarks                |
|----------|--------|-----------|--------|-----|-------------|-----------|-------|-------|------------------------|
|          | Code   | Ohms Res. |        |     |             |           |       |       |                        |
| F729-HB  | 73-A   | 4-party   | 64-C   | 41  | 103         | 79-A      | 16    | F41-A | Ringer to ground post. |



## TELEPHONES

### Common Battery Oak Wall Type

For those who prefer common battery wall telephones with the writing shelf, our F730 type is the most popular. It is compact, attractive in appearance, and reliable in operation. The transmitter cords are concealed in the transmitter arm, all binding posts are on the inside of the box and all exposed metal parts are carefully insulated.

The standard Kellogg apparatus is compactly arranged, and provided with sufficient room for the working parts. All condensers in talking circuits are 2MF.

#### Induction Coil Circuit

#### Straight Line Ringer

| Code No. | Code | Ringer<br>Ohms Res. | Trans. | Arm | Hook<br>Switch | Ind.<br>Coil | Cond. | Rec.  | Remarks*               |
|----------|------|---------------------|--------|-----|----------------|--------------|-------|-------|------------------------|
| F730-SA  | 84-A | 1000                | 22-C   | 42  | 101            | 79-A         | 66    | F41-A | Ringer to ground post. |

#### Biased Ringer

|         |      |      |      |    |     |      |    |       |                        |
|---------|------|------|------|----|-----|------|----|-------|------------------------|
| F730-BA | 79-A | 1000 | 22-C | 42 | 101 | 79-A | 66 | F41-A | Ringer to ground post. |
|---------|------|------|------|----|-----|------|----|-------|------------------------|

#### Harmonic Ringers (Old Frequencies)

16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50 and 66 $\frac{2}{3}$  cycles.

|         |      |         |      |    |     |      |    |       |                        |
|---------|------|---------|------|----|-----|------|----|-------|------------------------|
| F730-HA | 72-A | 4-party | 22-C | 42 | 101 | 79-A | 66 | F41-A | Ringer to ground post. |
|---------|------|---------|------|----|-----|------|----|-------|------------------------|

#### Harmonic Ringers (New Frequencies)

30, 42, 54 and 66 cycles.

|         |      |         |      |    |     |      |    |       |                        |
|---------|------|---------|------|----|-----|------|----|-------|------------------------|
| F730-HB | 73-A | 4-party | 22-C | 42 | 101 | 79-A | 66 | F41-A | Ringer to ground post. |
|---------|------|---------|------|----|-----|------|----|-------|------------------------|

### Common Battery Wall Grabaphone Type

Our No. 9742 wall type set is very convenient. The box is made entirely of mild planished steel with a heavy black enamel finish, and is equipped with standard Kellogg apparatus.

The cover is attached with hinges, located at the bottom, and the release of the spring catch permits the swinging down of the cover exposing all of the apparatus.

No. F12C Grabaphone furnishes transmission of the highest efficiency. It is sturdily built and an ideal type of instrument to use.

All condensers in talking circuits are 2MF.



#### Induction Coil Circuit

#### Straight Line Ringer

| Code No. | Code No. | Ringer<br>Ohms Res. | Hook<br>Switch | Ind. Coil | Condenser | Graba-<br>phone |
|----------|----------|---------------------|----------------|-----------|-----------|-----------------|
| F-9742SA | 84-A     | 1000                | 116            | 79-A      | 16        | F12-C           |

#### Biased Ringer

| Code No. | Code No. | Ringer<br>Ohms Res. | Hook<br>Switch | Ind. Coil | Condensers | Graba-<br>phone |
|----------|----------|---------------------|----------------|-----------|------------|-----------------|
| F-9742BA | 79-A     | 1000                | 116            | 79-A      | 16         | F12-C           |

#### Harmonic Ringer

Old Frequencies 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$  cycles.

| Code No. | Code No. | Ringer<br>Ohms Res. | Hook<br>Switch | Ind. Coil | Condensers | Graba-<br>phone |
|----------|----------|---------------------|----------------|-----------|------------|-----------------|
| F-9742HA | 72-A     | 4-party             | 116            | 79-A      | 16         | F12-C           |

New Frequencies 30, 42, 54, 66 cycles.

|          |      |         |     |      |    |       |
|----------|------|---------|-----|------|----|-------|
| F-9742HB | 73-A | 4-party | 116 | 79-A | 16 | F12-C |
|----------|------|---------|-----|------|----|-------|

## TELEPHONES

### Desk Stands



The Kellogg desk stand has been carefully designed to reduce maintenance to a minimum. It is graceful in appearance and light enough in weight to handle with ease, is sufficiently rugged to withstand ordinary knocks and continuous service. It is the only one on the market that is provided with a perfect transmitter adjustment which never requires attention, the transmitter back does not become loose on its mounting, as it is part of the lug.

The capital is non-breakable and holds the transmitter securely in any position. Instead of using an ordinary japan finish over the upright which always chips or wears off, a heavy Kellogg Bakelite protection tube is used, insuring a lasting finish that does not discolor, crack or chip.

The base is of steel, treated to prevent rusting after which it is given a heavy coat of dull, black enamel. It is equipped with a heavy felt ring which is firmly held in a groove, encircling the outer edge of the base. This felt is securely held in position by prongs and protects the furniture as well as absorbing the shock of the impact when the stand is slammed down on the table.

The springs are of German silver equipped with No. 1 contacts, and with the connecting rack are located in an accessible manner in the base. The hookswitch has a very short action, yet a free movement of the contact springs is effected. All corners and sharp edges are rounded off, and the hook fork so formed that the receiver does not fall off should the stand be tilted. The standard finish is in a permanent black enamel.

No rattle to hookswitch. Weight is in the right place. Accessibility and practicability in arrangement of the apparatus in base of stand. Absolute, unequalled transmission for either short or long distances.

The superiority of this stand has caused the leading telephone companies to adopt it as a standard for long distance, as well as local work.

### Common Battery Desk Stands

| Code No. | Conductors | Desk Set Cord | Receiver Cord | Rec.  | Trans. | Remarks   |
|----------|------------|---------------|---------------|-------|--------|---|
| F118     | 3          | F636-D 72"    | F98-TR 36"    | F41-A | 64-C   | Used with boxes Nos. 404, 257, 407 and 600 types.   |
| F 97     | 2          | F100-D 72"    | F98-TR 36"    | F41-A | 64-C   | Induction coil and talking condenser in base. Used with boxes Nos. 75, 259 and 408 types.               |
| F 75     | 2          | F100-D 72"    | F98-TR 36"    | F66-A | 64-C   | Direct current set with transmitter and receiver in series. Used with boxes Nos. 75, 259 and 408 types. |

### Common Battery Desk Grabaphone Stands



Kellogg Grabaphone stands are of the same sturdy construction as our standard desk telephones. The cradle is of pressed steel heavily black enameled, and operates the hook switch springs with the same reliability as in our desk stand.

This F115A Grabaphone stand takes the No. F11C Grabaphone.

Kellogg Grabaphones are unequalled in every way. They combine ease of talking, practicability, and handsome appearance.

They are especially desirable in offices, as only one hand is required to carry on a conversation, the right or left hand is always free, for writing, for instance, and requires minimum amount of effort.

| Code  | Cord        | Grabaphone | Grabaphone Cord |
|-------|-------------|------------|-----------------|
| F115A | 3 cond. 72" | F-11C      | 4 cond. 48"     |

NOTE: All of the above stands are furnished with brown mercerized cords with spade terminals, unless otherwise specified. Connecting racks and binding posts in stands and receivers will take cords with either spade or spike tips.

## TELEPHONES

### Common Battery Desk Sets

#### 3 Conductor Type



The F-118 stand described on the preceding page is equipped with a 3-conductor cord and is used with desk set boxes containing the induction coil and one 2 MF condenser for both the talking and ringing circuits. There is nothing in the base of this stand except the hook switch springs and connecting rack. For complete sets, order the F118 stand with any of the following desk set boxes.

#### Desk Set Boxes

Kellogg Desk Stand Boxes are extra compact, requiring small mounting space. The metal boxes are of pressed steel, heavily enameled, and present a very fine appearance. The wood boxes are made of the same heavy quartered oak used in making Kellogg telephones, with the same high grade finish. All apparatus is arranged in the most practical and accessible manner.



Flat Type

#### Flat Type

The flat type Desk Stand Box is of pressed steel, parkerized, heavily black enameled, and is especially desirable where the mounting space is limited. The loosening of one screw releases the cover, exposing the binding posts, ringer and cord connecting rack. The loosening of another screw permits the removing of the box from the mounting plate which is attached to the wall giving access to all apparatus contained in the box. The connecting rack takes either spike or spade (flat) terminal cords.



Open View, Flat Type

| Code    | Ringer   |
|---------|--|
| F-404SA | 86-A 1000 Ohm Straight Line.   |
| F-404BA | 85-B 1000 Ohm Biased.  |
| F-404HB | 88-A Four-party Harmonic, 30, 42, 54, 66 cycles.   |
| F-404HA | 87-A Four-party Harmonic, 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$ cycles. |

#### Deep Front Type

The deep drop-front type Desk Stand Box is of pressed steel, and very popular, although somewhat larger than the flat type, it is compact and pleasing in appearance. The cover is attached with hinges, which are located at the bottom. The release of the spring catch which also forms the taper guard, permits the swinging down of the cover, exposing all apparatus.

The connecting rack takes either spike or spade (flat) terminal cords.



Deep Drop-Front Type

| Code     | Ringer  |
|----------|---|
| F-257SA  | 84-A 1000 Ohm Straight Line.  |
| F-257 BA | 79-A 1000 Ohm Biased.   |
| F-257HB  | 73-A Four-party Harmonic 30, 42, 54, 66 cycles.   |
| F-257HA  | 72-A Four-party Harmonic 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$ cycles. |



Open View  
Deep Drop-Front Type

#### Oak Type

The No. 407 Type Desk Set box is of quartered oak, with Kellogg high grade finish. It is light in weight, compact, handsome in appearance, and is a popular box, where the wood type is desired.



No. 407 Type

| Code    | Ringer   |
|---------|--|
| F-407SA | 84-A 1000 Ohm Straight Line.   |
| F-407BA | 79-A 1000 Ohm Biased.  |
| F-407HA | 72-A Four-party Harmonic, 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$ cycles. |
| F-407HB | 73-A Four-party Harmonic, 30, 42, 54, 66 cycles.   |
| F-407HC | 74-A Two-party Harmonic, 20, 60 cycles.  |



Open View  
No. 407 Type

All of the above boxes are equipped with a 2MF condenser and an induction coil.



## TELEPHONES

### Common Battery Desk Sets 2 Conductor Type

The F-97 stand is furnished with a 2-conductor cord and contains the induction coil and a 2-MF talking condenser in the base. A separate 1-MF ringing condenser is furnished in the desk set box. For complete sets, order one F-97 desk stand and any of the following desk set boxes.

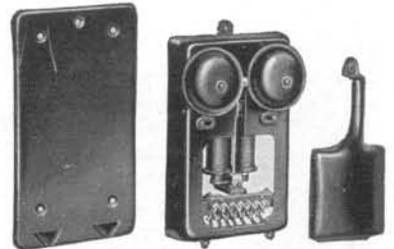
#### Desk Set Boxes

##### Flat Type

The flat type Desk Stand Box is of pressed steel, parkerized, heavily black enameled, and is especially desirable where the mounting space is limited. The loosening of one screw releases the cover, exposing the binding posts, ringer and cord connecting rack. The loosening of another screw permits the removal of the box from the mounting plate, which is attached to the wall, giving access to all apparatus contained in the box. The connecting rack takes either spike or spade (flat) terminal cords.



Flat Type



Open View Flat Type

Code  
**F-75SA**  
**F-75BA**  
**F-75HB**  
**F-75HA**

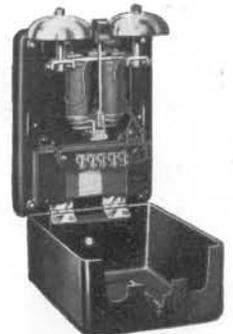
Ringer  
 86-A 1000 Ohm Straight Line.  
 85-B 1000 Ohm Biased.  
 88-A Four-party Harmonic 30, 42, 54, 66 cycles.  
 87-A Four-party Harmonic 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$  cycles.

##### Deep Front Type

The deep drop-front type Desk Stand Box is of pressed steel, and very popular, although somewhat larger than the flat type, it is compact and pleasing in appearance. The cover is attached with hinges, which are located at the bottom. The release of the spring catch which also forms the taper guard, permits the swinging down of the cover, exposing all apparatus.



Deep Drop-Front Type



Open View Deep Drop-Front Type

Code Ringer  
**F-259SA** 84-A 1000 Ohm Straight Line.  
**F-259BA** 79-A 1000 Ohm Biased.  
**F-259HB** 73-A Four-party Harmonic, 30, 42, 54, 66 cycles.  
**F-259HA** 72-A Four-party Harmonic 16 $\frac{2}{3}$ , 23 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$  cycles.

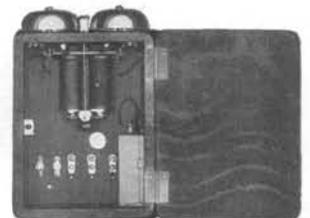
##### Oak Type

The No. 408 Type Desk Set box is of quartered oak, with Kellogg high grade finish. It is light in weight, compact, handsome in appearance, and is a popular box, where the wood type is desired.



No. 408 Type

Code Ringer  
**F-408SA** 84-A 1000 Ohm Straight Line.  
**F-408BA** 79-A 1000 Ohm Biased.  
**F-408HA** 72-A Four-party Harmonic, 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$  cycles.  
**F-408HB** 73-A Four-party Harmonic, 30, 42, 54, 66 cycles.  
**F-408HC** 74-A Two-party Harmonic, 20, 60 cycles.



Open View No. 408 Type

All of the above boxes are equipped with a 1MF condenser.

## TELEPHONES

### Common Battery Desk Sets Grabaphone Type



The F-115A Grabaphone is of the same sturdy construction as our standard desk stand. It is furnished with a three-conductor cord and is used with desk set boxes containing the induction coil and a 2-MF condenser for both the talking and ringing circuits. This stand takes an F-11C Grabaphone.

There is nothing in the base of this stand except the hookswitch springs and connecting rack.

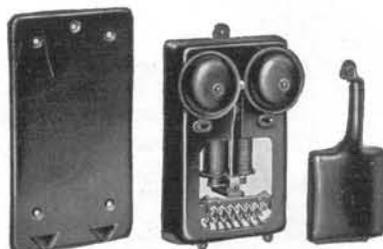
For complete sets, order one No. F-115A desk stand and one F-11C Grabaphone with any of the following desk set boxes.

#### Desk Set Boxes Flat Type



Flat Type

The flat type Desk Stand Box is of pressed steel, parkerized, heavily black enameled, and is especially desirable where the mounting space is limited. The loosening of one screw releases the cover, exposing the binding posts, ringer and cord connecting rack. The loosening of another screw permits the removal of the box from the mounting plate, which is attached to the wall, giving access to all apparatus contained in the box. The connecting rack takes either spike or spade (flat) terminal cords.



Open View Flat Type

Code  
F-404SA  
F-404BA  
F-404HB  
F-404HA

Ringer  
86-A 1000 Ohm Straight Line.  
85-B 1000 Ohm Biased.  
88-A Four-party Harmonic 30, 42, 54, 66 cycles.  
87-A Four-party Harmonic 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$  cycles.

#### Deep Front Type

The deep drop-front type Desk Stand Box is of pressed steel, and very popular, although somewhat larger than the flat type, it is compact and pleasing in appearance. The cover is attached with hinges, which are located at the bottom. The release of the spring catch which also forms the tapper guard, permits the swinging down of the cover, exposing all apparatus.



Deep Drop-Front Type

| Code    | Ringer  |
|---------|---|
| F-257SA | 84-A 1000 Ohm Straight Line.  |
| F-257BA | 79-A 1000 Ohm Biased.   |
| F-257HB | 73-A Four-party Harmonic 30, 42, 54, 66 cycles.   |
| F-257HA | 72-A Four-party Harmonic 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$ cycles. |



Open View  
Deep Drop-Front Type

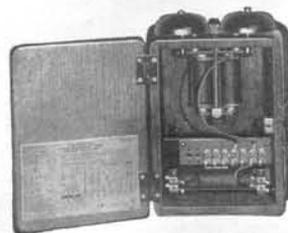
#### Oak Type

The No. 407 Type Desk Set Box is of quartered oak, with Kellogg high grade finish. It is light in weight, compact, handsome in appearance, and is a popular box, where the wood type is desired.



No. 407 Type

| Code    | Ringer  |
|---------|---|
| F-407SA | 84-A 1000 Ohm Straight Line.  |
| F-407BA | 79-A 1000 Ohm Biased.   |
| F-407HA | 72-A Four-party Harmonic 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$ cycles. |
| F-407HB | 73-A Four-party Harmonic 30, 42, 54, 66 cycles.   |
| F-407HC | 74-A Two-party Harmonic 20, 60 cycles.  |



Open View  
No. 407 Type

All of the above boxes are equipped with a 2MF condenser and an induction coil.

## TELEPHONES

### Common Battery Enclosed Gong Wall Type



No. F801

Kellogg enclosed gong type wall telephones are made in three styles or circuit arrangements; straight common battery, straight common battery for 8 or 10 party harmonic rural common battery lines, and common battery arranged for automatic dials.

In planning these sets, a great deal of time and study was spent to secure the most accessible arrangement of parts so standardized that parts would be interchangeable with those used on older Kellogg telephones.

The photographs we believe will show to what extent we have succeeded.

The cabinets used in these sets are made from heavy drawn steel, finished in durable black enamel. All parts are most accessible for inspection and adjustment. Connecting racks are stamped with white lead so that all markings can be easily distinguished.

The booster induction coil circuit has been designed in connection with the Kellogg transmitter and receiver for maximum transmission.

For common battery rural lines, having divided ringing, we recommend the No. 802 set which is arranged with an extra condenser in the ringer circuit. The standard 801 set has a provision for adding the second condenser to convert it for rural use without any change in the cabling.

Ringer wires on all sets are separate from the cable, so that the ringer can be removed without the use of a soldering iron or without disturbing the wiring in the set. For low maintenance, excellent transmission and long life, we believe the telephone manager can find nothing better than these fine instruments.



### Common Battery Telephones, Straight Line and Harmonic

|         | Ringer              | Induction Coil | Condenser | Remarks   |
|---------|---------------------|----------------|-----------|---|
| F-801SA | 84A-1000 ohm        | 79A            | 146-1Mf   | Straight Line   |
| F-801HA | 72A-Harmonic        | 79A            | 146-1Mf   | 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$ cycles |
| F-801HB | 73A-Harmonic        | 79A            | 146-1Mf   | 30-42-54-66 cycles  |
| F-801BA | 79A-1000 ohm biased | 79A            | 146-1Mf   | Biased ringer   |

### Common Battery Telephones for Harmonic Rural Lines

|         |              |     |          |                         |
|---------|--------------|-----|----------|-------------------------|
| F-802HB | 73A-Harmonic | 79A | 146 & 12 | 30-42-54-66 cycles      |
| F-801HA | 72A-Harmonic | 79A | 146 & 12 | 16 $\frac{2}{3}$ cycles |

### Arranged for Automatic Dial

The No. F-803 automatic enclosed gong wall telephone contains the same standard equipment used in the above sets.

These telephones are furnished without dials unless specified. When furnished without dial, openings are covered with suitable blanks.



|         | Ringer       | Induction Coil | Condenser | Remarks   |
|---------|--------------|----------------|-----------|---|
| F-803BA | 79A          | 79A            | 146-1Mf   | Biased ringer for straight line use                               |
| F-803HA | 72A-Harmonic | 79A            | 146-1Mf   | 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$ cycles |
| F-803HB | 73A-Harmonic | 79A            | 146-1Mf   | 30-42-54-66 cycles  |

## TELEPHONES

### Common Battery Enclosed Gong Desk Type



Enclosed gong desk sets are made up in two types, common battery and automatic. The construction of the desk set box is practically the same as that used in the wall sets and parts are interchangeable. The desk set box contains the ringer, induction coil, No. 146-1Mf condenser and connecting rack. The same desk set boxes are used on both straight common battery and automatic, the only difference being in the desk stands.



For complete description of the F-118 desk stand, see page 13. A complete desk set consists of one of these stands and one of the following desk set boxes:

|       | Ringer              | Induction Coil | Condenser | Remarks   |
|-------|---------------------|----------------|-----------|---|
| 600SA | 84A-1000 ohm        | 79A            | 146-1Mf   | Straight Line   |
| 600HA | 72A-Harmonic        | 79A            | 146-1Mf   | 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 60 $\frac{2}{3}$ cycles |
| 600HB | 73A-Harmonic        | 79A            | 146-1Mf   | 30-42-54-66 cycles  |
| 600BA | 79A-1000 ohm biased | 79A            | 146-1Mf   | Biased ringer   |

### Common Battery Enclosed Gong Desk Grabophone Sets



The F-115A Grabophone Desk Stand is of the same sturdy construction as the regular F-118 stand and interchangeable with it. Because of the convenience of this type of equipment it is preferred by many subscribers. It is used with any of the F-600 type Desk Boxes listed below.

|       | Ringer              | Induction Coil | Condenser | Remarks   |
|-------|---------------------|----------------|-----------|---|
| 600SA | 84A-1000 ohm        | 79A            | 146-1Mf   | Straight Line   |
| 600HA | 72A-Harmonic        | 79A            | 146-1Mf   | 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 60 $\frac{2}{3}$ cycles |
| 600HB | 73A-Harmonic        | 79A            | 146-1Mf   | 30-42-54-66 cycles  |
| 600BA | 79A-1000 ohm biased | 79A            | 146-1Mf   | Biased ringer   |

## TELEPHONES

### Common Battery Desk Sets

#### Automatic Type



The Kellogg Automatic Desk Stand is very similar to the standard Kellogg Desk Stand except that the upright is set off center permitting the dial to be placed well onto the surface of the base to protect the dial mechanism from injury in case the desk stand is accidentally knocked over.

Another important feature of the Kellogg Automatic Desk Stand is that the weight of the instrument is such that numbers can be turned up on the dial with one hand not requiring the other hand to steady the base as is the case with some other automatic instruments.

The connecting rack in the base is of the Universal type, taking either spike or spade tips. It is accessible, convenient, durable and efficient.

A complete set consists of an F-301 desk stand and one of the following desk set boxes.

Telephones are furnished without dials unless specified.

|       | Ringer               | Induction Coil | Condenser | Remarks   |
|-------|----------------------|----------------|-----------|---|
| 600HA | 72-A-Harmonic        | 79A            | 146-1Mf   | 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 60 $\frac{2}{3}$ cycles |
| 600HB | 73-A-Harmonic        | 79A            | 146-1Mf   | 30-42-54-66 cycles  |
| 600BA | 79-A-1000 ohm biased | 79A            | 146-1Mf   | Biased ringer   |

### Common Battery Desk Grabaphone Sets

#### Automatic Type

The No. F135 automatic desk grabaphone set is essentially the same in circuit design and operation as the F301 Desk Set listed above. Because of its convenience many subscribers prefer it to the regular desk type.

It is furnished with the same heavy offset base and standard induction coil booster circuit. Interchangeable with F301 Desk Stand and used with the F600 type desk set boxes listed above.

Telephones are furnished without dials unless specified. When furnished without dials, openings are covered with suitable blanks.



### Common Battery Grabaphone Extension Sets

The Kellogg Grabaphone set is a desirable instrument for extension service. It is a handy bed-side telephone and a perfect conversation is always a certainty, whether in a standing, sitting or reclining position.

This set consists of a small steel box and a No. F12C Grabaphone. The box is neatly finished in a durable black enamel. A mounting space of 5x6 inches is all that is necessary to take care of this installation.

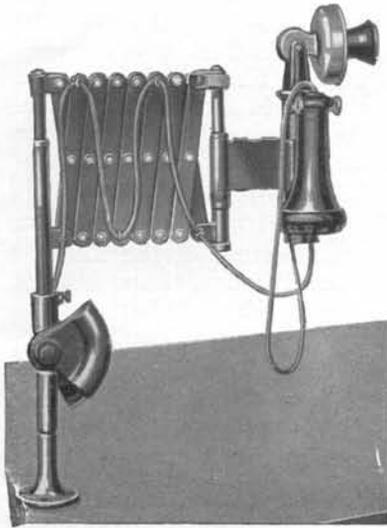


#### Induction Coil Circuit

| Code No. | Hook Switch | Retard. Coil | Cond. | Grabaphone |
|----------|-------------|--------------|-------|------------|
| F722     | 98          | 79-A         | 62    | F12-C      |

## TELEPHONES

### No. 600 Bracket Telephone Complete With Arm



Bracket Telephone with Universal Attachment on No. 2 Mounting.

Kellogg bracket telephones consist of our standard desk stands without the base, attached to bracket arms in the regular manner.

These sets are convenient for those who have constant use for desk telephones.

For the telephone manager it means a desk-stand rate with no desk-stand maintenance. The "no base" feature prevents all base trouble and breakage from mishandling and permits every paper and letter on the desk to be seen at once. The added safety of mounting the desk stand on the sturdy arm is desirable because it eliminates all possibility of the desk-stand being knocked from the top of the desk to the floor. An accident which usually results in broken mouthpieces and receiver-shells, and a general disfigurement and break-down of the apparatus. The cord, likewise, is held securely on the bracket and out of the way.

When it is desired to give the Bracket a vertical movement as well as a horizontal, a Universal attachment may be obtained for small additional cost, which transforms any Standard bracket into a Universal bracket.

Bracket telephone includes a standard No. 8 telephone arm and mounting. This Arm is durably and neatly constructed and will last for many years. It is guaranteed for five years.

Kellogg Bracket phones require no other attachments or complications.

The Kellogg Telephone on the Arm is always within reach—never in the way.

The following numbers cover complete sets with flat steel desk set boxes. Deep steel or oak boxes may be substituted by referring to boxes used with F-118 stand.



Bracket Telephone with No. 2 Mounting.

| Set Code No. | Bracket Telephone |            |         |       | Desk Set Box |       |   | Ind. Coil |       |
|--------------|-------------------|------------|---------|-------|--------------|-------|---|-----------|-------|
|              | Code              | Con-ductor | Cord    | Rec.  | Trans.       | Code  | Ringer  |           | Cond. |
| F-618SF      | F-618             | 3          | F-150-D | F-41A | 64C          | 600SA | 86A-1,000 ohm   | 146-1MF   | 79A   |
| F-618BF      | F-618             | 3          | F-150-D | F-41A | 64C          | 600BA | 85B-1,000 ohm   | 146-1MF   | 79A   |
| F-618HAF     | F-618             | 3          | F-150-D | F-41A | 64C          | 600HA | 87A-16 $\frac{1}{2}$ -33 $\frac{1}{2}$ -50-66 $\frac{1}{2}$ | 146-1MF   | 79A   |
| F-618HBF     | F-618             | 3          | F-150-D | F-41A | 64C          | 600HB | 88A-30-42-54-66   | 146-1MF   | 79A   |

### Mountings



No. 1

With each Bracket Telephone, we supply a mounting with which it may be attached to the desk or table. Below you will find three types of mountings. If you do not find a type mounting which will suit your particular need, write us and we will be glad to supply you with that type which you desire.

No. 1 Mounting especially designed to be attached to the side of a flat top desk or table. It can also be used for side of a roll top desk.

No. 2 Mounting is used on a flat top table.

No. 5 Mounting is used on the side of a flat top desk or table.

The No. 2 Mounting is standard and is regularly furnished when either the Standard or Universal type arm is ordered, unless otherwise specified.



No. 5



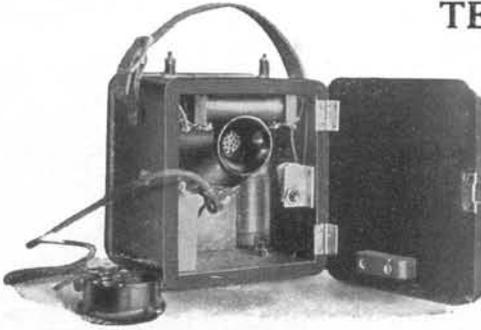
Universal Attachment



No. 2

## TELEPHONES

### Railway Telephones



No. 2731

#### Portable Sets Birch Mahogany

The No. 2731 portable set is very compact and light in weight. The cabinet is of unusually fine birch mahogany, and is equipped with standard Kellogg apparatus.

This handy set is used by several of our large railroad companies, and it fills the need of communication while enroute.

| Code No. | Trans. | Ind. Coll | Cond. | Push Button | Rec. |
|----------|--------|-----------|-------|-------------|------|
| F2731    | 22-L   | 28-C      | 28    | 4           | 46-A |

Above set used with line connecting pole.

### Insulated Telephones

Insulated Wall Telephone, compact wood-work with concealed binding posts, for use on lines in the vicinity of high-tension currents to safeguard the telephone circuit and avoid injury from shocks. No exposed connected metal parts.

No. 2744 Contains: No. 53 5-bar generator, No. 78D 1600 ohm ringer, No. 22L transmitter, No. 28C induction coil, No. 41A receiver, special railway cord.



No. 2744  
Insulated Telephone

### Oil Field Telephones

#### Wall Type

#### Heavy Duty Extra Powerful Set

Code No.  
2884

Wall telephone. Oak cabinet with concealed binding posts. Designed to meet the requirements of oil field and pipe line companies where highest transmission and ringing service is demanded. Separate primary and secondary circuit.

Contains: No. 22L transmitter on No. 42 arm, No. 75 6-bar generator, No. 79G 2500 ohm ringer, No. 28C induction coil, No. 41A receiver with special railway cord.

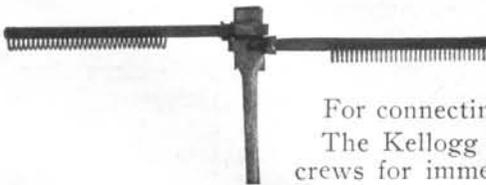


No. 2884  
Oil Field Telephone

#### Desk Type

The desk type oil field telephone consists of our standard No. 90A desk stand and No. 2415 desk set box. This desk set box is equipped with a six bar generator and will give the same service as the 2884 wall set described above. The desk stand is handsomely finished in black enamel and equipped with Bakelite receiver shell and mouth piece, making this stand practically indestructible.

This desk set box contains: No. 75 6-bar generator, No. 28C induction coil, No. 78G 2500 ohm ringer.



### Kellogg Jointed Railway Connecting Poles

For connecting at any point on a pole line circuit.

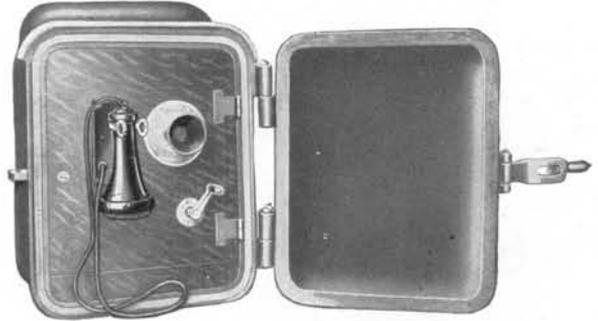
The Kellogg No. 12-B telephone connecting arm is used by train crews for immediate connection along the lead with the dispatcher.

The most practical and serviceable jointed pole equipment for this purpose. Seasoned hickory. Comes in three pieces. Quickly assembled. The connecting rods or arms at the top are of bronze and fitted with spiral springs which automatically scrape and grip the line wires making excellent connection. These connecting arms are hinged at the pole and fold close to the pole. The two arms, and connecting pole with twisted pair wire fold into a compact bundle. A number of railroads are using these poles with our portable telephone, Code No. 2731. The bronze arms can be screwed into position at right angles to the pole or parallel with it so that contact can be made with two wires on the same level, from the same cross arm, or from a pair of wires, one above the other.

## TELEPHONES Malleable Iron Case



No. 2868



Open View No. 2868

These telephones are intended for use in mines, railroad yards, for street railways, and for all outdoor use. The case is of heavy malleable iron, designed to fasten on poles or on the wall. All parts are thoroughly protected from the weather and from mechanical injury. The malleable iron case is 16" high, 17 $\frac{3}{4}$ " wide and 17 $\frac{1}{2}$ " deep. Net weight, 97 lbs. The front door, which opens on strong hinges, is provided with a heavy malleable iron hasp so it can be locked by means of an ordinary iron padlock. The bells are protected by a heavy malleable iron hood, provided with weatherproof openings, which allow the ringing to be heard at a considerable distance.

This set was designed at the request of one of the large railroads for yard service. It is unquestionably the most rigid and serviceable set ever built, and should not be confused with the ordinary cast iron mine telephone.

| Code No. | Ringer    | Trans. | Generator | Ind. Coll |
|----------|-----------|--------|-----------|-----------|
| 2868     | 1000 ohms | 32L    | 4 bar     | 28-C      |
| 2882     | 1600 ohms | 32L    | 5 bar     | 28-C      |
| 2883     | 2500 ohms | 32L    | 5 bar     | 28-C      |

### Sets—Test

#### No. 1025 Lineman's Test Set



Code No. 1025—Test Set

This compact, easy-to-carry lineman's testing and talking set is arranged for use on common battery lines. A very desirable addition to the lineman's repair kit. When used as a talking set, central can be reached by simply "clipping" in at the main frame, the terminal rack or out on the line.

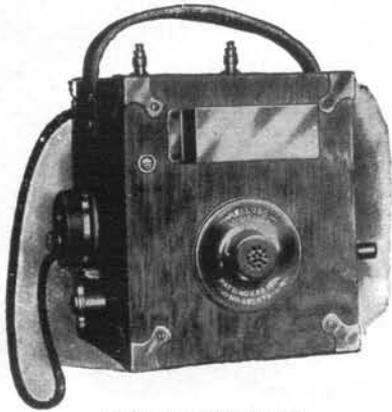
The set consists of a Code No. 19 grabaphone arranged for use with two single conductor cords, sixty-two inches long, equipped with two No. 13 Universal test clips. The grabaphone is made entirely of metal, black enameled with one exception, the ear cap which is made of hard rubber.

## TELEPHONES SETS—TEST

Kellogg Test Sets are compact, light in weight and properly proportioned so as to be easy to carry. The durable cabinet is reinforced with steel plates at each corner. The standard Kellogg equipment is securely mounted in the most practical manner for the convenience of the line man.

The service furnished by these sets in the World War prove them to be unequalled for reliability and long life.

Any combination of generators and ringers, either series or bridging, furnished promptly to order.



Code No. 1016 Closed



Code No. 1016 Open

No. 1008 measurements:  $6\frac{7}{8}$ " h,  $6\frac{1}{8}$ " w, 6" d.

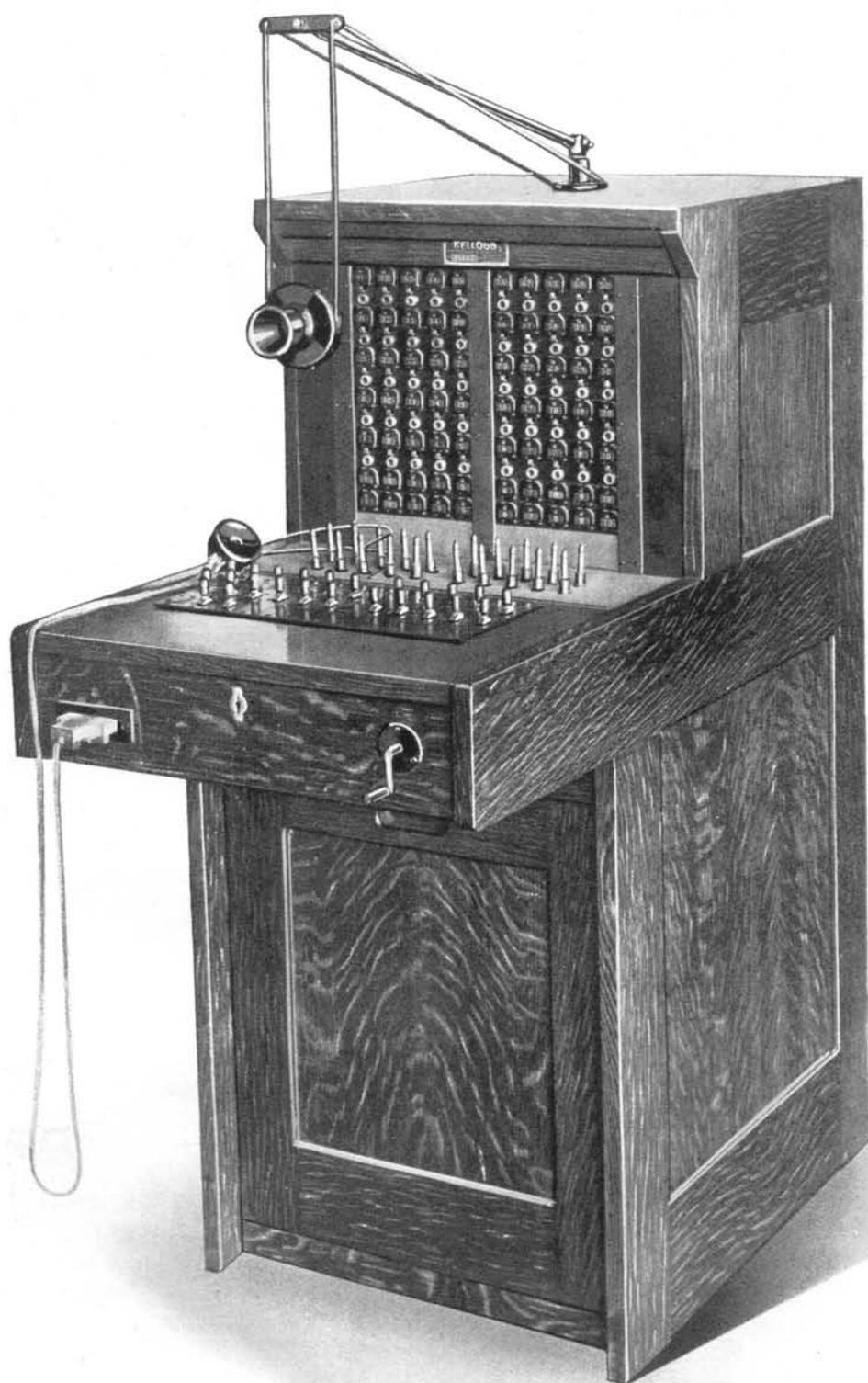
No. 1016 measurements: 8" h, 7" w,  $8\frac{3}{8}$ " d.

Weight about 15 pounds.

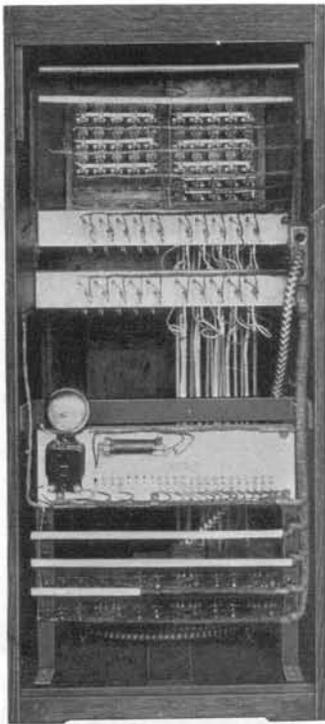
### Bridging Type

This set is a complete portable telephone and is built from standard parts. An excellent all round test set.

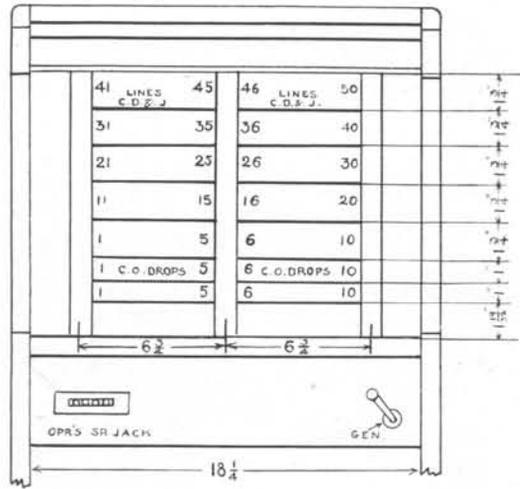
| Code No. | Generator |      | Ringer   |      | Hook Ohms | Switch | Rec. | Trans. | Ind. Coil | Oval Dry Cells |
|----------|-----------|------|----------|------|-----------|--------|------|--------|-----------|----------------|
|          | Code No.  | Bars | Code No. | Ohms |           |        |      |        |           |                |
| 1016     | 22        | 4    | 18-C     | 1600 | 47        | 14-A   | 32-L | 28-C   | 2 No. 4   |                |



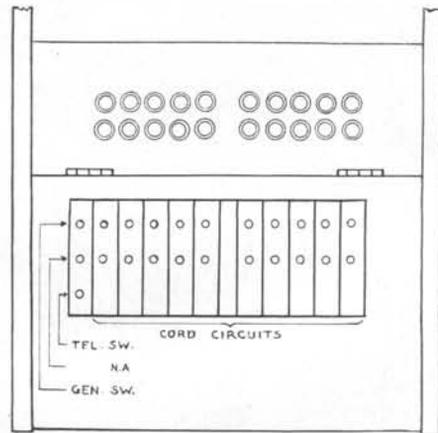
*Fifty Line Magneto Switchboard.*



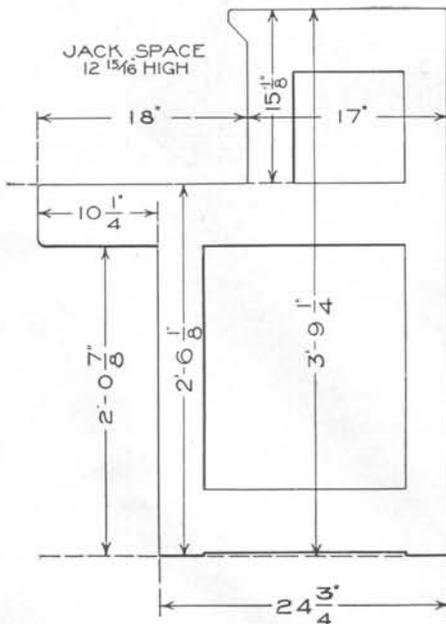
Rear view, 50 line board  
 Floor space occupied: Base, Depth,  $24\frac{3}{4}$ .  
 Width,  $18\frac{3}{4}$ .



Front view of face equipment showing standard numbering arrangement of drops and jacks and front end of key shelf, with operator's jack.

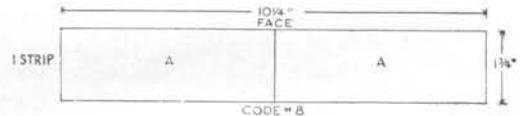


Top view of key shelf, showing keys and cord equipment.



Side elevation 50 line cabinet

Shipping weight fully equipped, 180 lbs. net, 350 lbs. packed.

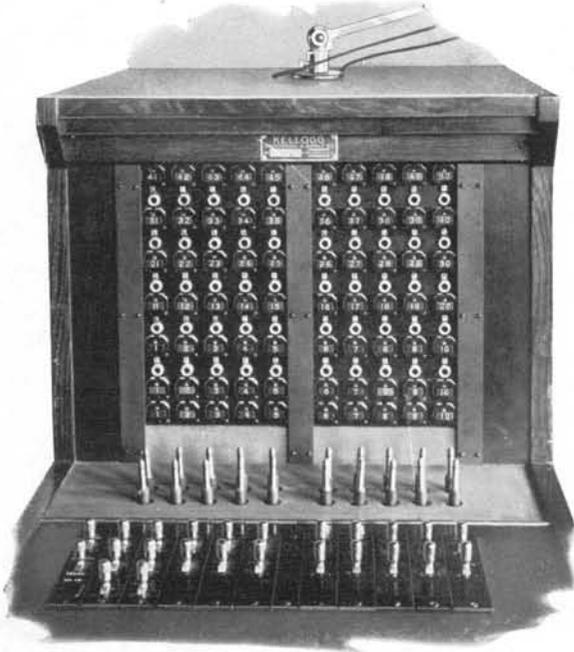


Occupies space of 10 combined drops and jacks, with compartments for cash drawers.



Cash Drawer to Fit "A."

**No. 50—Fifty Lines Capacity**  
**One Position—Low Key Shelf**



The No. 50 Magneto switchboard is wired as follows:

**Drop Supervision Only**

| Cabinet Code | Lines Wired | Cords Wired |
|--------------|-------------|-------------|
| No. 50       | 50          | 10          |

This No. 50 type magneto switchboard has greater flexibility, we believe, than any other similar equipment. It is extremely fast, and economical in operating, and any standard arrangement of equipment assures a money saving and money making switchboard for the smaller town exchange.

Kellogg No. 50 Type Magneto Switchboards are designed to meet the needs of every magneto telephone exchange with equipment that will operate reliably and give the best class of service under all conditions. Everything has been done to eliminate complicated circuits and apparatus and to build every part with the idea

of reducing future maintenance costs. The Kellogg self-restoring drop and jack with its pure hard rubber insulation between drop shell and frame, its long lever hook and simple spring arrangement is giving good uninterrupted service in many thousand boards in this country and abroad.

Kellogg Bakelite and dialecto insulations and bushings are used in all key and jack assemblies, preventing shorts, crosses and all the troubles heretofore met with in key and jack construction.

Each drop coil with its core and containing shell is heavily insulated with hard rubber from the mounting plate, from the night alarm circuit, and from all other drop coils and adjacent parts. Such construction is very expensive, but it renders burnouts and damage from lightning highly improbable under any circumstances and practically impossible when proper carbon protection is employed.

The night alarm contact is held point up in a long and resilient German silver spring and will not fail to operate the bell on night calls.

In the keys a heavy T frame permits the springs with No. 1 contact metal to be mounted on both sides and the cam is so designed that the extra heavy rollers are held in place without screws, making these keys the smoothest operating and the longest wearing on the market.

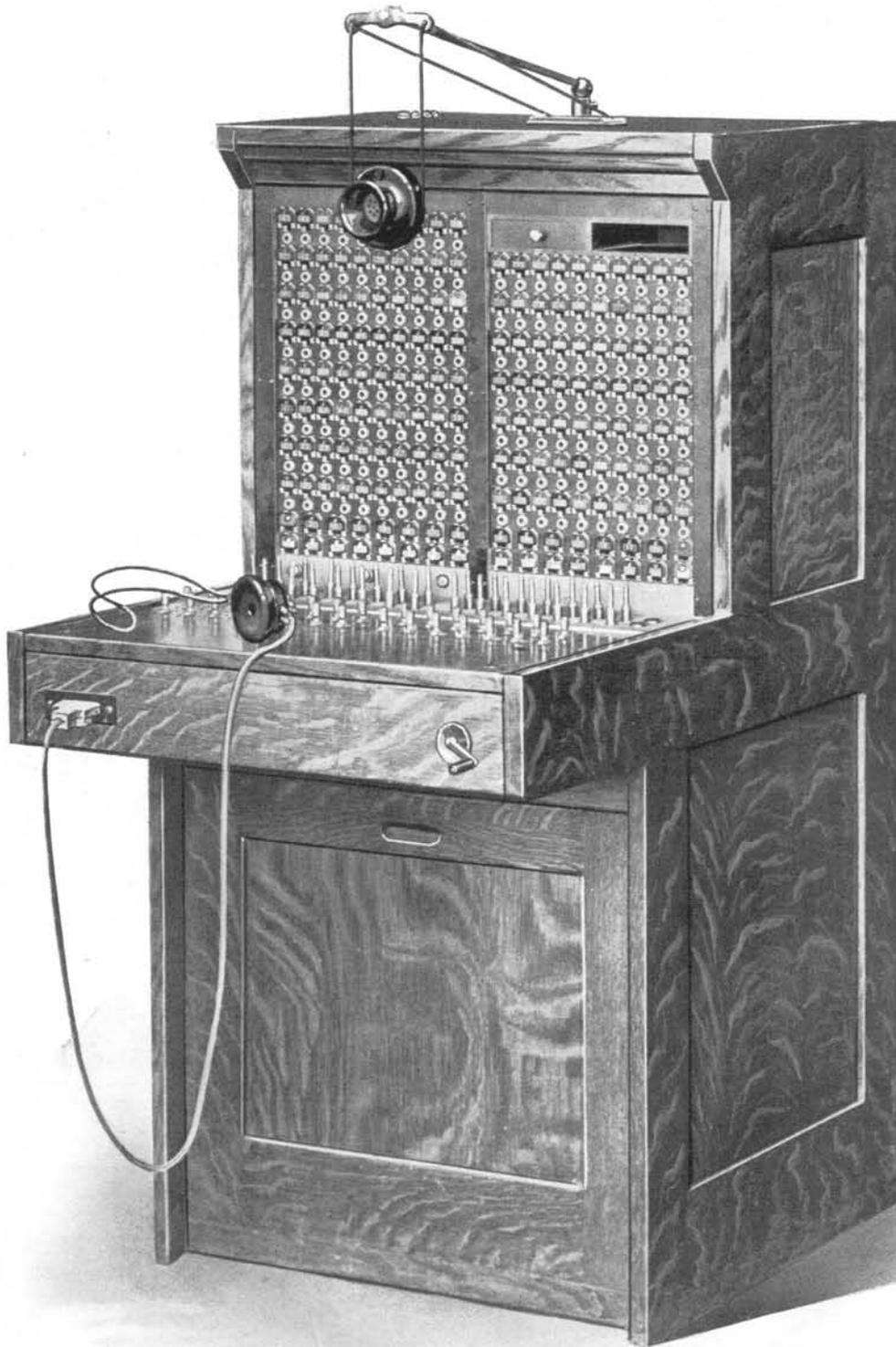
The operators' equipment consists of a suspended type transmitter. The jack is mounted on the face of the key shelf.

The finished cabinets present a most attractive appearance and are what is known as the low key shelf type, permitting the use of an ordinary office chair and providing sufficient space on the key shelf for making tickets or such other work as the operator may have occasion to do.

All circuits used in these switchboards are carefully balanced against the possibility of cross talk and generator noise by the use of twisted pairs in all wiring.

The detailed description and construction of all the various important pieces of apparatus are given following the circuit descriptions.

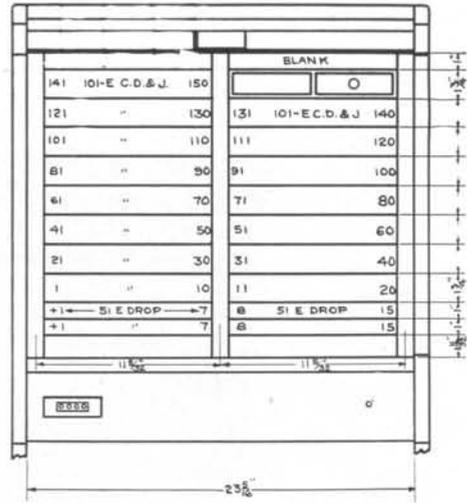
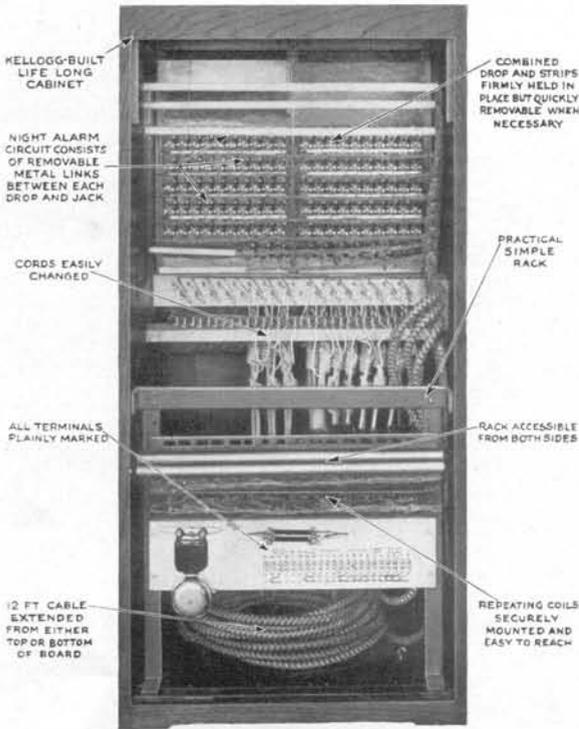
**No. 150 MAGNETO SWITCHBOARD**



*150 Line Magneto Switchboard may be equipped with either double or single drop supervision.*

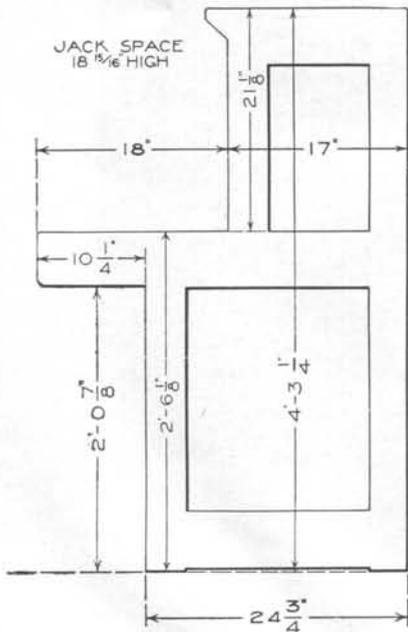
**In Referring to This Page—111—Please Mention Catalogue No. 7.**

KELLOGG SWITCHBOARD AND SUPPLY COMPANY, CHICAGO

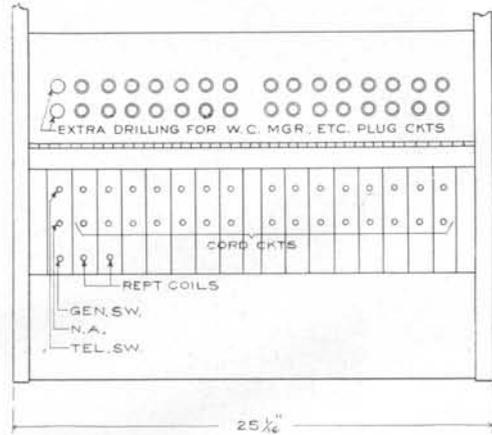


Front view of face equipment, showing standard numbering arrangement of drops and jacks and front end of key shelf, with operator's jack.

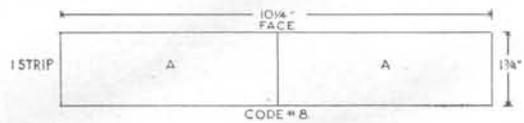
Rear view, 150 line board  
 Floor space occupied: Base, depth, 24 3/4".  
 Width, 25 1/8".



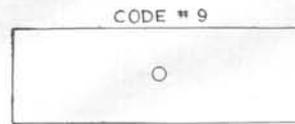
Side elevation 150 line cabinet.



Top view of key shelf, showing keys and cord equipment.



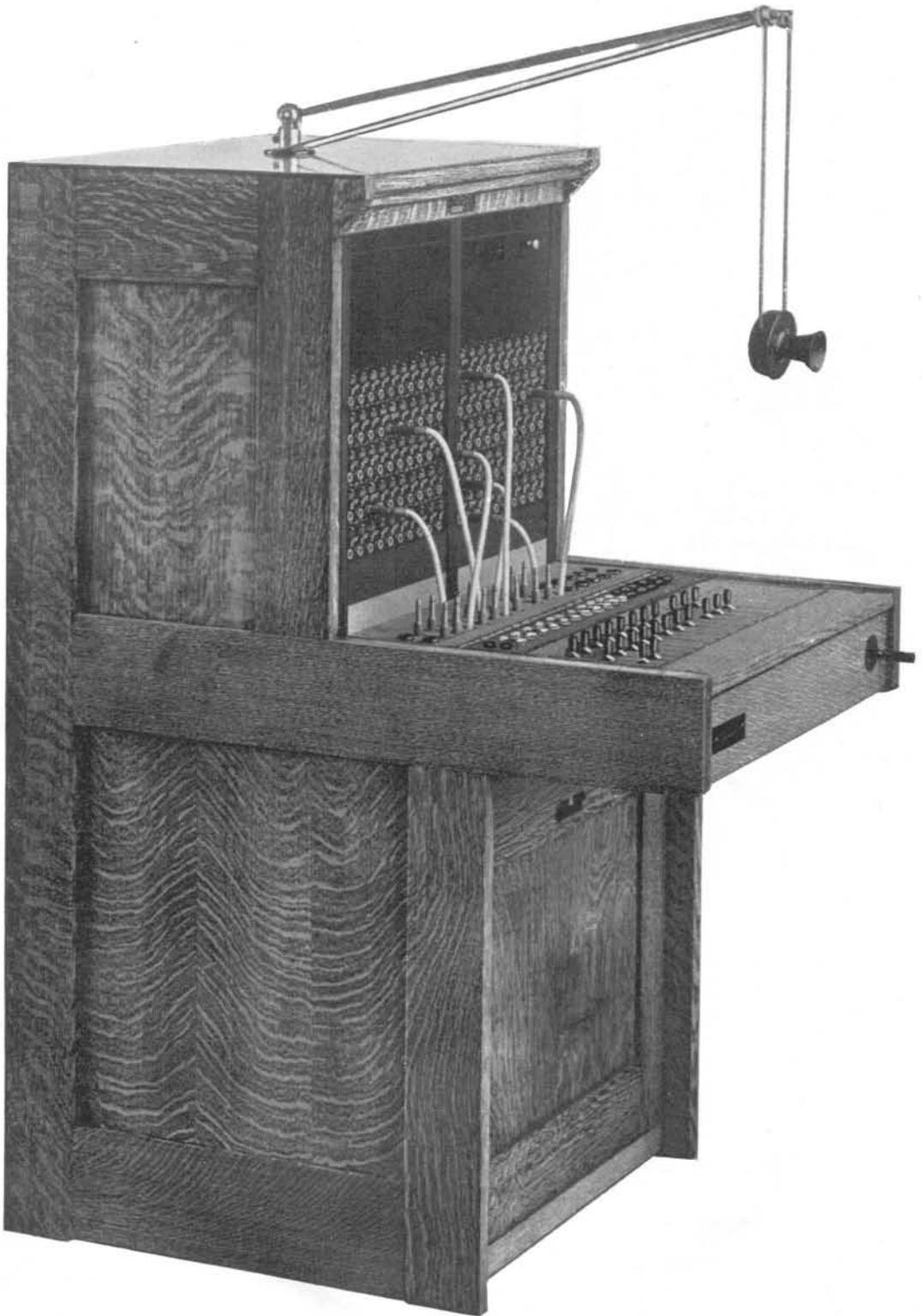
Occupies space of 10 combined drops and jacks, with compartments for cash drawers.



Cash Drawer  
 To Fit "A"

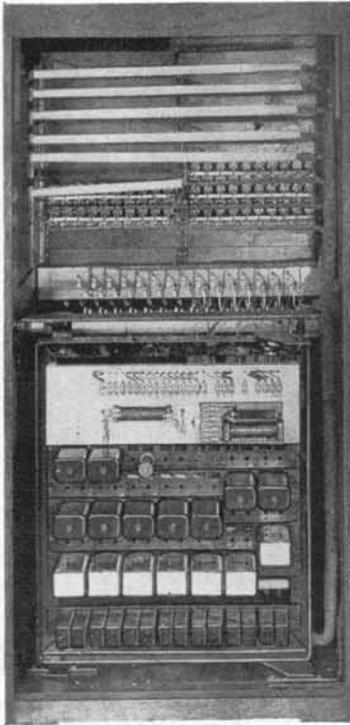
Shipping weight fully equipped, 450 to 500 lbs. packed.

In Referring to This Page—112—Please Mention Catalogue No. 7

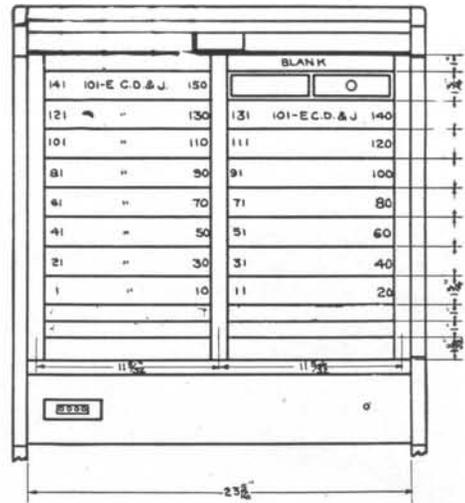


*150 Type Magneto Switchboard with Double Lamp Supervision.*

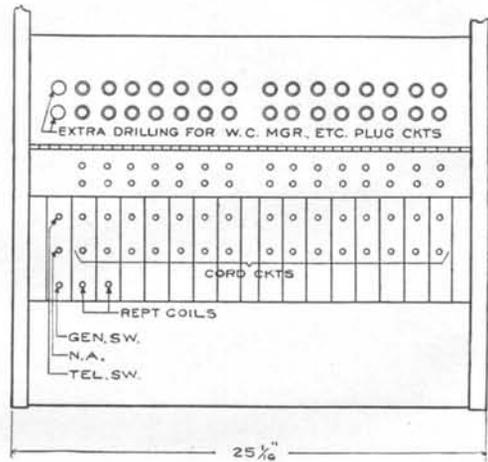
KELLOGG SWITCHBOARD AND SUPPLY COMPANY, CHICAGO



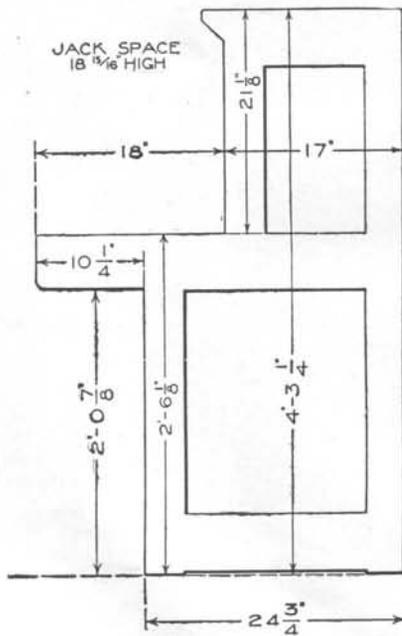
Rear view of 150 type lamp supervision, Magneto Switchboard.



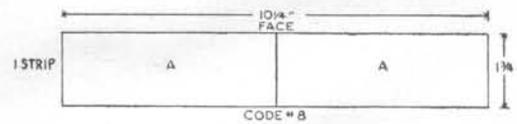
Front view of face equipment, showing standard numbering arrangement of drops and jacks and front end of key shelf, with operator's jack.



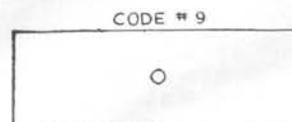
Top view of key shelf, showing keys, lamp and cord equipment.



Side elevation 150 line cabinet.  
Floor space occupied: Base, depth, 24 3/4".  
Width, 25 1/16".



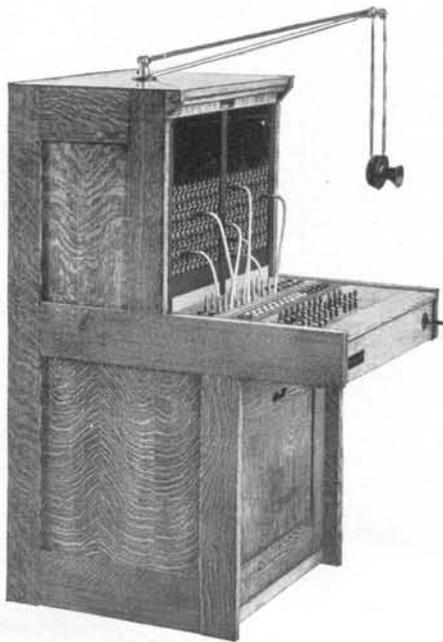
Occupies space of 10 combined drops and jacks, with compartments for cash drawers.



Cash Drawer  
To Fit "A"

## No. 150—One Hundred Fifty Lines Capacity One Position—Low Key Shelf

The No. 150 Magneto switchboard is wired as follows:



| <b>Drop Supervision</b> |             |             |
|-------------------------|-------------|-------------|
| Cabinet Code            | Lines Wired | Cords Wired |
| No. 150-A               | 100         | 15          |
| No. 150-B               | 150         | 15          |

| <b>Lamp Supervision</b> |             |             |
|-------------------------|-------------|-------------|
| Cabinet Code            | Lines Wired | Cords Wired |
| No. 150-A.L.            | 100         | 15          |
| No. 150-B.L.            | 150         | 15          |

This No. 150 type magneto switchboard has greater flexibility, we believe, than any other similar equipment. It is extremely fast, and economical in operating, and any of the combinations described on these pages assures a money saving and money making switchboard for the smaller town exchange.

Kellogg No. 150 Type Magneto Switchboards are designed to meet the needs of every magneto telephone exchange with equipment that will operate reliably and give the best class of service under all conditions. Everything has been done to eliminate complicated circuits and apparatus and to build every part with the idea of reducing future maintenance costs. The Kellogg self-restoring drop and jack with its pure hard rubber insulation between drop shell and frame, its long lever hook and simple spring arrangement is giving good uninterrupted service in many thousand boards in this country and abroad.

Kellogg Bakelite and dialecto insulations and bushings are used in all key and jack assemblies, preventing shorts, crosses and all the troubles heretofore met with in key and jack construction.

Each drop coil with its core and containing shell is heavily insulated with hard rubber from the mounting plate, from the night alarm circuit, and from all other drop coils and adjacent parts. Such construction is very expensive, but it renders burnouts and damage from lightning highly improbable under any circumstances and practically impossible when proper carbon protection is employed.

The night alarm contact is held point up in a long and resilient German silver spring and will not fail to operate the bell on night calls.

In the keys a heavy T frame permits the contact springs with No. 1 contact metal points to be mounted on both sides and the cam is so designed that the extra heavy rollers are held in place without screws, making these keys the smoothest operating and the longest wearing on the market.

The Key Shelf is equipped with a bracket support to hold it in a convenient open position when an inspection of the keys is necessary.

The operators' equipment consists of a suspended or breast plate type transmitter and headband and receiver. The jack is mounted on the face of the key shelf.

An operator's telephone circuit switching key is permanently wired into the circuit which permits switching together two operators' circuits to enable one operator to use the cord circuits of two boards when they are installed next to each other where a larger capacity than one hundred and fifty lines is required.

The finished cabinets present a most attractive appearance and are what is known as the low key shelf type, permitting the use of an ordinary office chair and providing sufficient space on the key shelf for making tickets or such other work as the operator may have occasion to do.

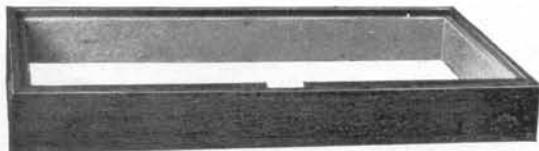
All circuits used in these switchboards are carefully balanced against the possibility of cross talk and generator noise by the use of twisted pairs in all wiring.

The detailed description and construction of all the various important pieces of apparatus are given following the circuit descriptions.

## Switchboard Pedestal

When the growth of an exchange requires the installation of an additional 150 type magneto switchboard, these can be placed side by side, and, when desired, mounted on a frame of sufficient height that all cords will reach all the jacks in either board.

This pedestal is of quartered oak of finest quality in material and workmanship and matches the finish of our switchboards.



Code No. 155 Pedestal

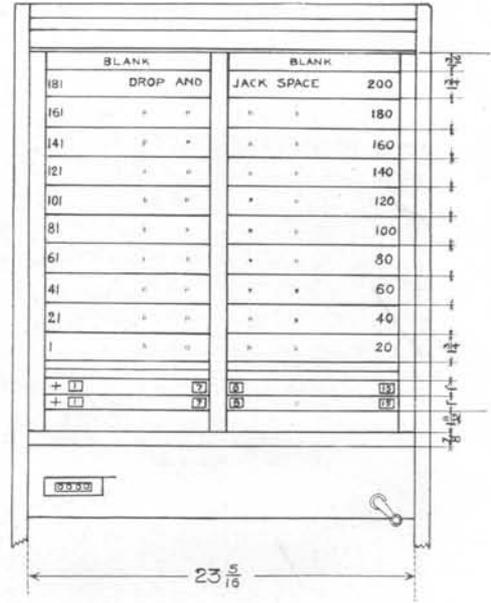


**No. 200 MAGNETO SWITCHBOARD**

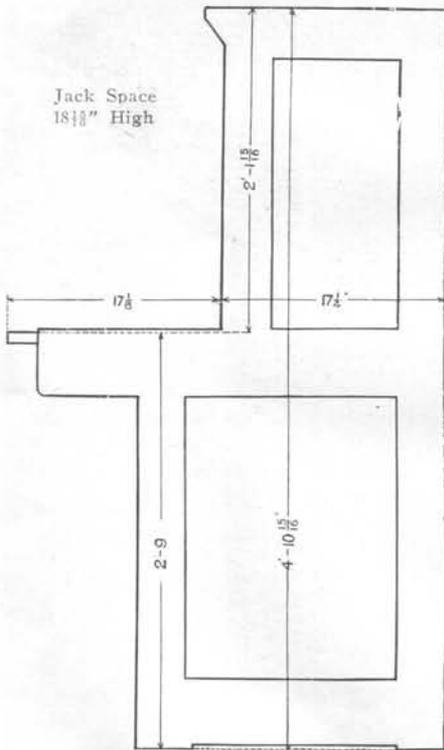


*200 Line Magneto Switchboard may be equipped with either double or single drop supervision.*

The outstanding advantages of our 200 line magneto switchboard are its capacity, especially when its compact size is considered, its adaptability to so wide a range in the number of telephones that can economically be switched through it, its exceptionally wide and deep extended keyshelf, its long cord reach, and the fact that in larger towns, where special conditions may make the installation of our Universal switchboard not advisable, two of these 200 line cabinets can be lined up together, giving what telephone men consider the very finest magneto service for the medium sized town.

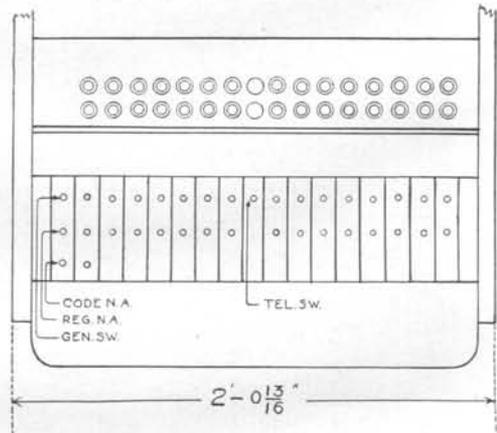


Front view of face equipment, showing standard numbering arrangement of drops and jacks and front end of key shelf, with operator's jack.

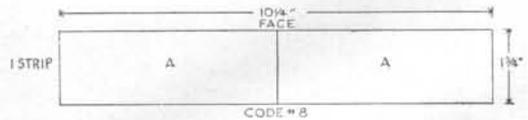


Side elevation, 200 line cabinet.

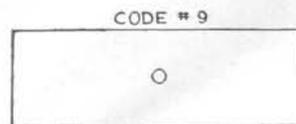
Floor space occupied: Base, depth, 24 <sup>3</sup>/<sub>4</sub> in.; width, 24 <sup>1</sup>/<sub>8</sub> in.



Top view of key shelf, showing keys and cord equipment.



Occupies space of 10 combined drops and jacks, with compartments for cash drawers.



Cash Drawer to Fit "A."

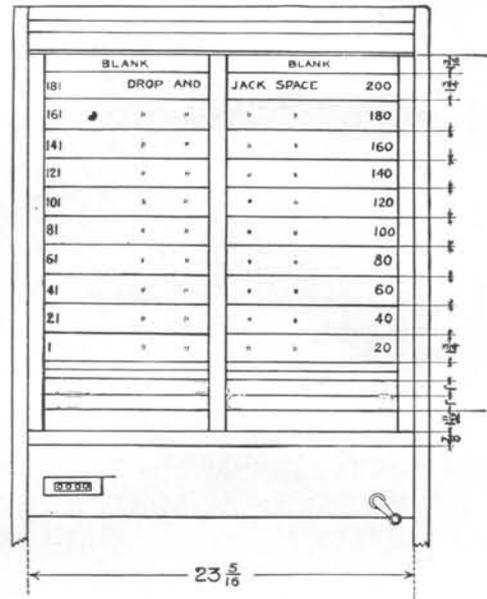


*200 Line Magneto Switchboard with Double Lamp Supervision.*

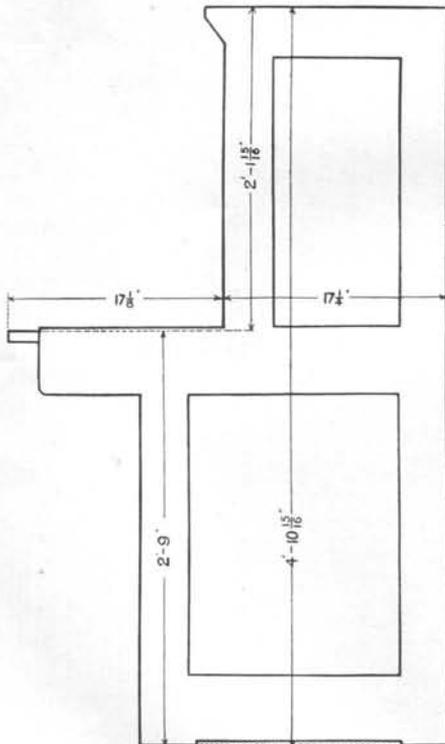
KELLOGG SWITCHBOARD AND SUPPLY COMPANY, CHICAGO

On this page, we show the dimensional cabinet drawing, the face and shelf equipment drawing of our 200-line magneto switchboard with double lamp supervision. This board is uniform in type with our 150-line magneto switchboard with double lamp supervision, illustrated on pages 112A and 112B.

The larger 200-line equipment represents what we believe to be the last word in clean cut, fast, magneto switchboard operating. It is particularly efficient for the larger exchange where magneto switchboards and telephones are preferred, and is popular in the medium size towns in which, for various reasons, it is not advisable to install our unit type Universal equipment.

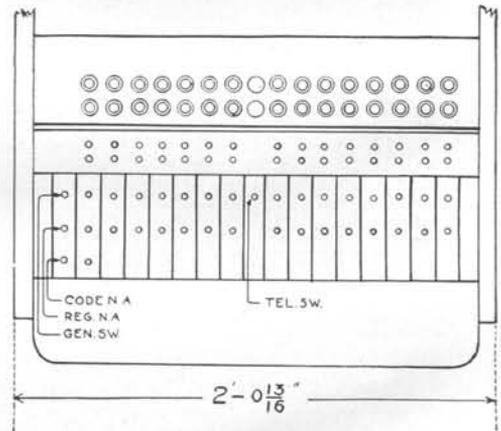


Front view of face equipment, showing standard numbering arrangement of drops and jacks and front end of key shelf, with operator's jack.

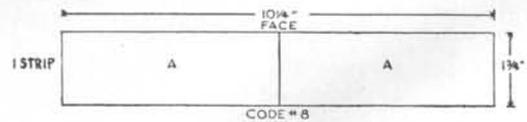


Side elevation, 200 line cabinet.

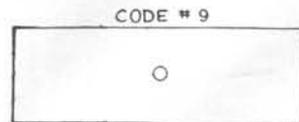
Floor space occupied: Base, depth, 24 <sup>3</sup>/<sub>4</sub> in.; width, 24 <sup>1</sup>/<sub>8</sub> in.



Top view of key shelf, showing keys, lamps and cord equipment.



Occupies space of 10 combined drops and jacks, with compartments for cash drawers.



Cash Drawer to Fit "A."

## No. 200—Two Hundred Lines Capacity

### One Position—Low Key Shelf

The No. 200 Magneto switchboard is wired as follows:

| <b>Drop Supervision</b> |             |             |
|-------------------------|-------------|-------------|
| Cabinet Code            | Lines Wired | Cords Wired |
| No. 200-A               | 100         | 15          |
| No. 200-B               | 150         | 15          |
| No. 200-C               | 200         | 15          |
| <b>Lamp Supervision</b> |             |             |
| Cabinet Code            | Lines Wired | Cords Wired |
| No. 200-A.L.            | 100         | 15          |
| No. 200-B.L.            | 150         | 15          |
| No. 200-C.L.            | 200         | 15          |

Cables to consist of fifty pair each.

This No. 200 type Magneto Switchboard has greater flexibility, we believe, than any other similar equipment. It is extremely fast, and economical in operating, and any of the combinations described on these pages assures a money saving and money making switchboard for the smaller town exchange.

Kellogg No. 200 Type Magneto Switchboards are designed to meet the needs of every magneto telephone exchange with equipment that will operate reliably and give the best class of service under all conditions. Everything has been done to eliminate complicated circuits and apparatus and to build every part with the idea of reducing future maintenance costs. The Kellogg self-restoring drop and jack with its pure hard rubber insulation between drop shell and frame, its long lever hook and simple spring arrangements is giving good uninterrupted service in many thousand boards in this country and abroad.

Kellogg Bakelite and dialecto insulations and bushings are used in all key and jack assemblies, preventing shorts, crosses and all the troubles heretofore met with in key and jack construction.

Each drop coil with its core and containing shell is heavily insulated with hard rubber from the mounting plate, from the night alarm circuit, and from all other drop coils and adjacent parts. Such construction is very expensive, but it renders burnouts and damage from lightning highly improbable under any circumstances and practically impossible when proper carbon protection is employed.

The night alarm contact is held point up in a long and resilient German silver spring and will not fail to operate the bell on night calls.

In the keys a heavy T frame permits the contact springs with No. 1 contact metal points to be mounted on both sides and the cam is so designed that the extra heavy rollers are held in place without screws, making these keys the smoothest operating and the longest wearing on the market.

The Key Shelf is equipped with a bracket support to hold it in a convenient open position when an inspection of the keys is necessary.

The operator's equipment consists of a suspended or breast-plate type transmitter, a light head band receiver. The jack is mounted on the face of the key shelf.

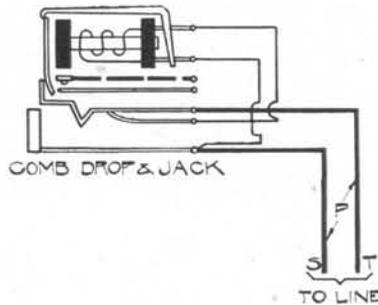
An operator's telephone circuit switching key is permanently wired into the circuit which permits switching together two operators' circuits to enable one operator to use the cord circuits of two boards when they are installed next to each other where a larger capacity than two hundred lines is required.

The finished cabinets present a most attractive appearance and are what is known as the low key shelf type, permitting the use of an ordinary office chair and providing sufficient space on the key shelf for making tickets or such other work as the operator may have occasion to do.

All circuits used in these switchboards are carefully balanced against the possibility of cross talk and generator noise by the use of twisted pairs in all wiring.

The detailed description and construction of all the various important pieces of apparatus are given following the circuit descriptions.

The circuit operations are as follows:  
**Magneto Line Circuit Using Combined Drop and Jack**  
 ckt. No. 18558



This circuit uses the Kellogg three conductor combined drop and jack, one conductor being an inside contact, which cuts one side of the drop off when a plug is inserted in the jack.

Perfect talking and ringing contacts and circuits are assured no matter how old the jack. The thimbles of the jacks will last for years on busy lines and are very easy and inexpensive to replace when worn.

The heavy, hard rubber strips between the drop and jack and mounting plate insure the best possible insulation between lines.

Drops are regularly furnished in 100, 500, and 1,000 ohm resistances; 500 for local and rural lines, and 1000 for toll lines is our recommendation.

The circuit is simple and easy to maintain.

The wiring is carried direct from the combined drop and jack to the main frame protector in 50 pair color coded cable and from there connected onto the outside line by means of a jumper wire. This cable is No. 22 gauge copper wire properly insulated with two wrappings of silk and one of cotton, and before applying the outer braid or covering the cable is saturated with bees wax.

All parts of the drops and jacks are accessible for inspection and repair. Drop coils are easily removed, though it is very seldom necessary.

**Night Alarm Circuit on Switchboards Having Drop Supervision**  
 ckt. No. 18559

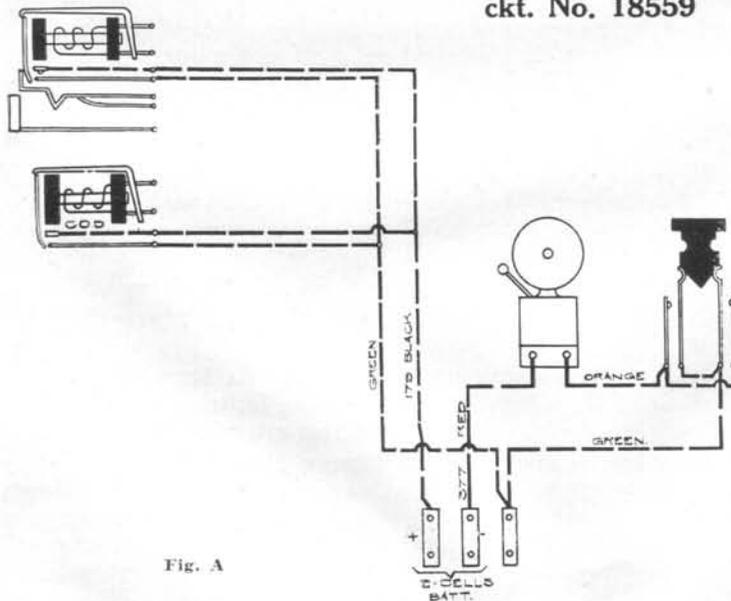


Fig. A

Fig. B

View of night alarm contact used with Kellogg combined drop and jacks.

**Night Alarm**

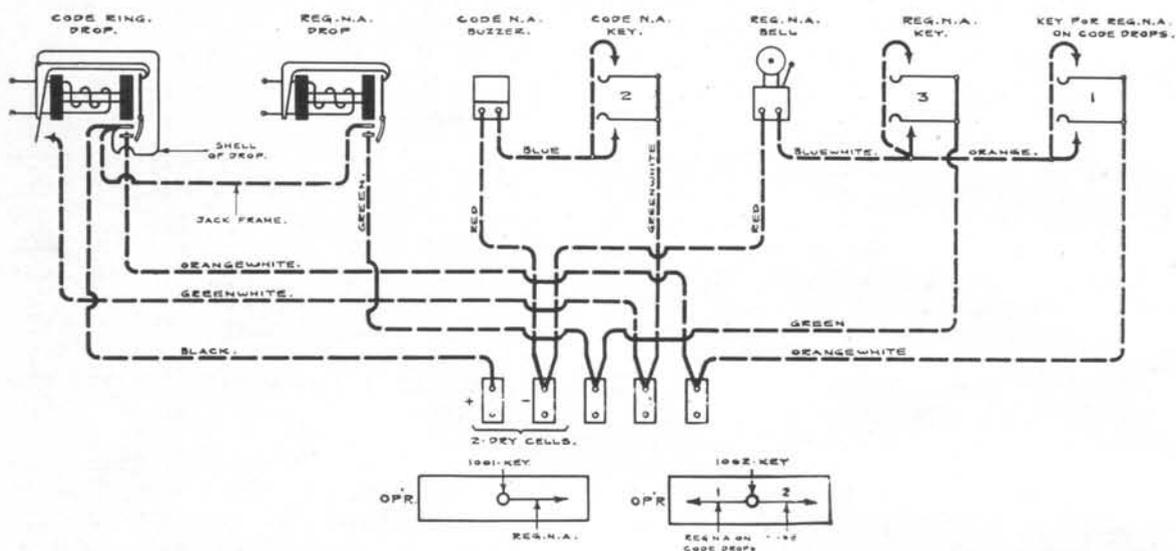
Dependability of the night alarm circuit is of absolute necessity in every magneto exchange. The Kellogg night alarm is the result of our endeavor to produce a night alarm system that is infallible. Its reliability is exceedingly important, as it leaves no reason, whatever, for the operator's inability to answer night calls.

This night alarm is operated by the falling of the drop shutter. It is positive in its operation and requires no adjustment and is dependable. It contains the fewest possible number of parts and such parts are of the very best construction. Each night alarm contact

has its contact point turned upward, as shown in Figure B, page 117 making a contact that cannot be affected by accumulated dust, since dust does not settle on sharp upturned points, nor on the under side of flat surfaces. The night alarm has a three inch vibrating bell as a signal.

## Code and Regular Night Alarm Circuit Used on Switchboards Having Drop Supervision

ckt. No. 29591



In addition to a regular night alarm, such drops as desired can be equipped with code alarm attachment as shown on the armature end of the left hand drop of the above circuit.

The advantage of this code alarm is that when the operator or attendant is not at the board, such as during the night time, she is able to distinguish between code rings on party lines when the parties on the line are calling each other and when they are calling for central.

The regular code alarm is controlled by a key mounted on the key shelf of the switchboard within easy reach of the operator, and can be switched on or off as the operator desires.

The code alarm has a buzzer signal. Both the night and code alarms are operated from dry batteries unless the board is equipped with a storage battery and in the latter case the night alarms, operator instrument and ringing should all be operated from one set of storage batteries.

While not absolutely essential on magneto switchboards, pilot lamp equipment is a refinement which has become very popular and many Kellogg boards are now going out with this equipment included.

All common battery switchboards have always been equipped with pilot lamps, but it remained for the Kellogg Company to design a simple and practical pilot lamp system for use on magneto switchboards.

In the standard Kellogg pilot lamp system, each operator's position is provided with a line pilot lamp, which lights in unison with falling line drops or the lighting of the supervisory lamp and stays lighted so long as these signals remain unattended to.

Should two parties happen to call in at the same time and throw drops widely separated, it is barely possible that the operator without the aid of pilot equipment might overlook one of the drops until the party called again, thereby vibrating the armature rod and calling attention to the fact of this drop being down. But with the pilot lamp equipment, it is impossible for the operator to neglect anyone unknowingly, since the pilot lamp burns steadily so long as either line calls, recalls or ring off signals remain unanswered. Thus the proper operation of the board becomes merely a matter of "keeping the lights out" and the highest class of service is assured.

## Pilot Lamp Circuit and Night Alarm Used on Switchboards Having Lamp Supervision

Circuit No. 32678

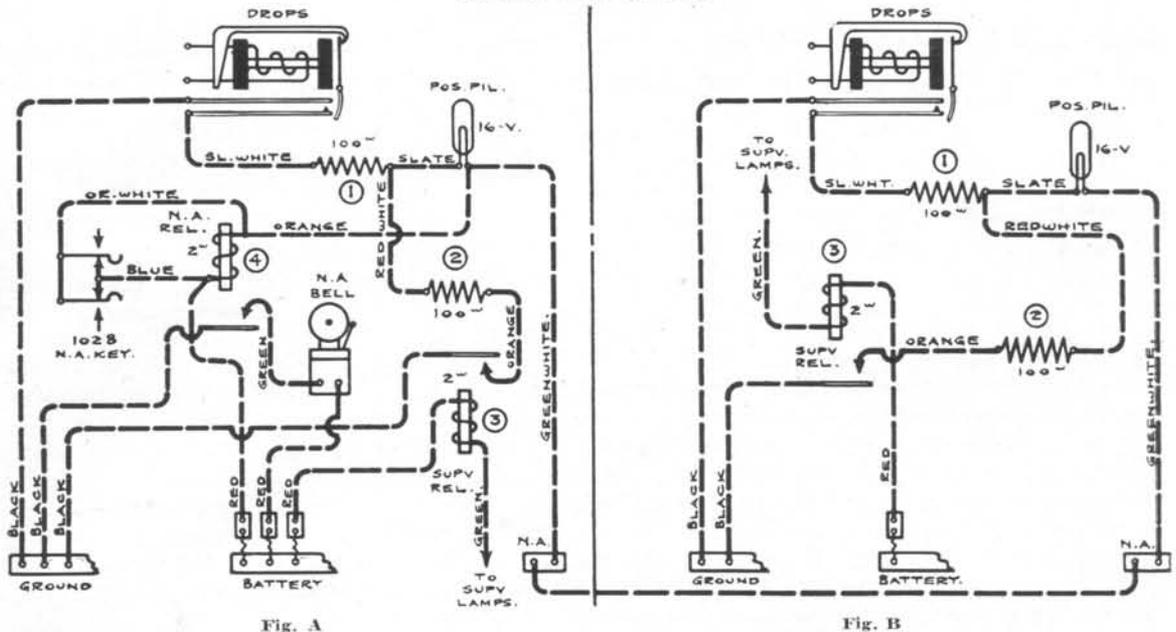


Fig. A

Fig. B

A common pilot lamp is included as standard equipment on all of our magneto switchboards having lamp supervisory signals. This pilot is placed in a conspicuous position where it is easily observed by the operator and so connected that the pilot lamp which is common to the position will light every time a supervisory lamp lights and also every time a line drop falls. This pilot furnishes a distinctive signal to the operator which directs her attention to the call. It means one of two things, either that there is a line to be answered by reason of some line drop shutter being down or that there is some cord circuit supervisory lamp lit showing that somebody is either making a recall or ringing off.

Where the switchboard is equipped with a pilot lamp the night alarm signal is associated in the same circuit and is operated by a relay, the action of which is controlled by a key.

Figure A, ckt. 32678 shows equipment in position No. 1 and Figure B shows the wiring and equipment necessary if a second position is used or added.

Pilots can be installed in magneto switchboards having ring off drops with equally good results.

We, however, do not suggest or recommend that pilots be installed on switchboards operated from dry batteries.

Where pole changers are to be installed for ringing it is advisable and recommended that a small set of storage batteries with a rectifier for charging be installed. This gives by far the most satisfactory and economical ringing arrangement or scheme that can be used, and this is true whether the ringing is on a basis of single frequency or whether it is on a basis of harmonic or any other type of party line ringing. The necessary power plant or equipment required to do this is a set of P. T. Type storage batteries and a 3 ampere rectigon rectifier. This added equipment requires a small amount of space for mounting, is inexpensive as to first cost, much more economical to operate and maintain than dry batteries or operating a motor generator or any type of ringing machine connected direct to the electric light circuit.

Where it is decided to put in such a storage battery plant we strongly recommend that lamp supervision cord circuits be used as shown in circuits No. 34007, L.R. Page No. 122, No. 32648 L.R.K., Page No. 123, and No. 32577 L, Page No. 124. We also

recommend that the operators' instrument, circuit No. 32579, Page No. 127, be used and operated from this same storage battery and also the night and code alarms. This gives a very complete and satisfactory arrangement.

### The Night Alarm Key

The operator's switching key when furnished, the secondary cut-out key when furnished and the generator switching key are mounted on the keyshelf in the line up with cord circuit keys and are of the same general type with different color tops to distinguish them.

### Cord Circuits

Following are the various types of Kellogg cord circuits commonly used and are listed in the order of our preference and recommendations, based on our experience.

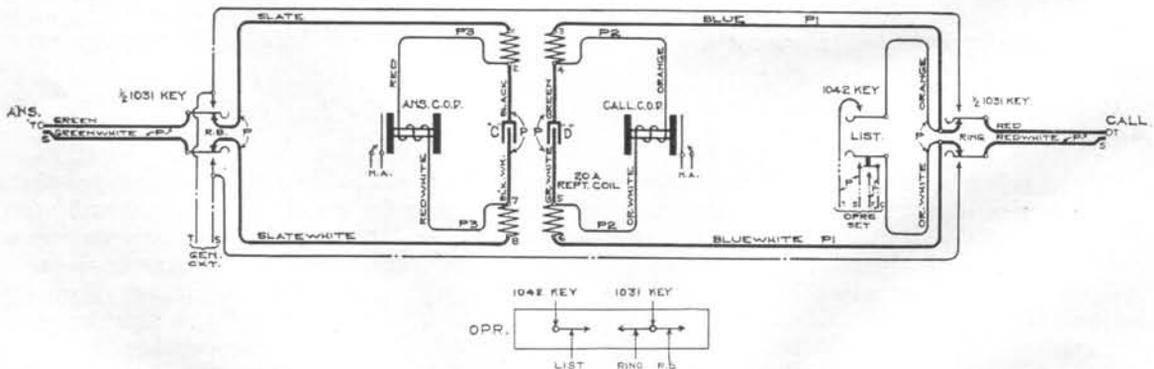
Double supervision cord circuits cost more money than those having single supervision, but the service possible with double supervision is vastly superior and more accurate than where single supervision is used. Whether to have a new board equipped with the standard cord circuits having single bridging ring-off drop, or to pay a little more and get the improved double supervisory non ring-through cord circuits, is a question that each purchaser must determine from local conditions.

Double supervisory cord circuits should always be installed where trouble has previously been encountered in "ringing off". The Kellogg double supervisory system will completely overcome all confusion and ring-off trouble previously encountered, when heavily loaded bridging lines have been connected with series telephones in town, or when two heavily loaded country lines have been connected with each other, or when two antiquated series telephones with old and weak generators have been unable to throw the ring-off drop, due to the escape of six-sevenths of the current to the other telephone.

There is no difference electrically in the efficiency between double drop and double lamp supervision. With either one you are assured of the very best results, but where it is necessary to maintain storage batteries for a ringing machine, (by far the most economical way of ringing that can be used) we recommend that the operator's instruments, night and code alarm be operated from these same batteries and also that lamp supervision be used instead of drops. Either one is equally sensitive, accurate and dependable, but lamp supervision is more modern and more attractive.

### Magneto Cord Circuit With Double Drop Supervision and Repeating Coil

ckt. No. 20237 T. R. (Fig. A)



This is the cord circuit we highly recommend as being the most efficient, serviceable, and satisfactory under all conditions for Magneto switchboards.

Kellogg No. 20-A non-ring through repeating coils in cord circuits serve three very useful purposes. One is to separate ground and metallic lines, thereby maintaining the normal balance between these types of lines. Another purpose is when ringing off, to prevent ring-

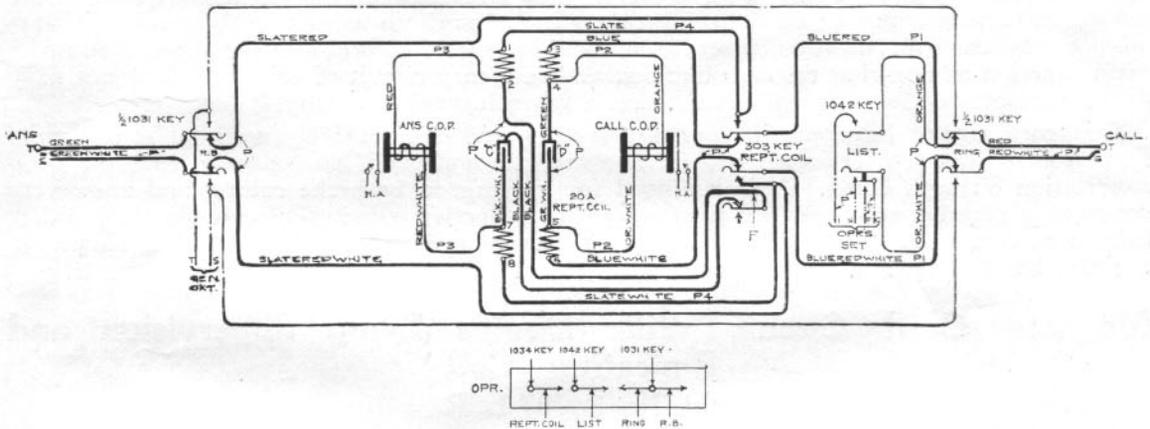
ing across the cord circuit and out on the line connected on the opposite cord. This creates confusion and annoyance both to the party ringing off and to the party whose bell is being rung by the subscriber who is trying to get central on a recall. And lastly, assures at all times a positive ring off signal to the operator and also a positive signal in case of a recall.

The condensers in this circuit are connected to the center of the repeating coil windings and provide a path for voice currents with a minimum of transmission loss and maximum of ringing off efficiency.

Cord circuit No. 20237, T. R. and cord circuit No. 34007, L.R. illustrate these repeating coils and condensers. They have a transmission loss of less than one half mile which is negligible. They are equipped for ringing on both the calling and answering cords and can be equipped with any type of selective ringing scheme desired, either using master keys or individual party ringing keys per cord circuit.

This makes a very efficient cord circuit with extremely low transmission loss. It is absolutely non-ring through but with positive ring-off supervision on both cords and can be equipped with any type of ringing scheme or circuits desired. It is simple to operate, has a low maintenance cost and will take care of the most exacting customer's requirements.

### Magneto Cord Circuit With Double Drop Supervision, Repeating Coil, and Repeating Coil Cutout Key ckt. No. 20237 T. R. K. (Fig. B)

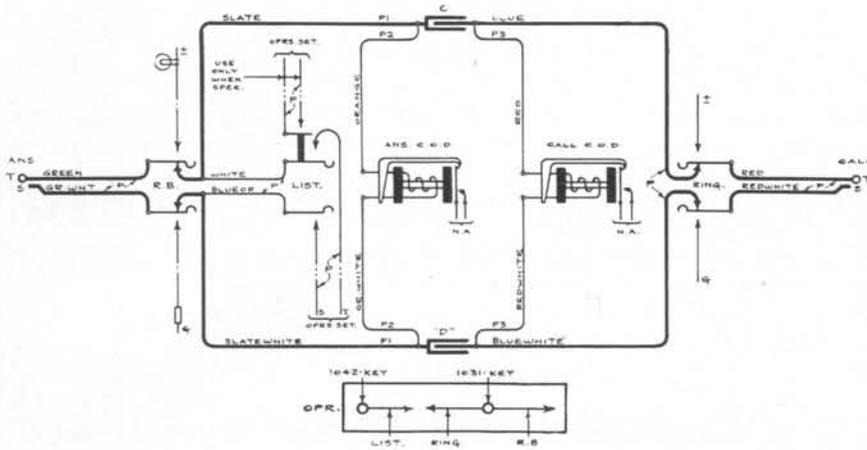


This cord circuit is also highly recommended and is exactly the same as cord circuit No. 20237, T.R. which was just previously described with the one exception that it has a repeating coil cutout key which is used to cut the repeating coil out on through toll connections. There are few instances, however, where Magneto exchanges are called upon to do this, or have the lines available for through connections, and we consider this feature quite unnecessary. The transmission loss when using a Kellogg repeating coil is less than one half mile, and there is no real need for this feature. In fact the repeating coils used on these switchboards are so efficient that the actual gain in transmission when the repeating coil is cut-out is so small as to be not noticeable. The cutting out of the repeating coil leaves but one supervisory drop on the circuit and this will function when a party on either the answering or calling cord rings off.

When the repeating coil is cut the circuit becomes a straight through cord circuit with no transmission loss.

While the cost of this circuit is very little more than the ckt. No. 20237, T.R. (Fig. A) we believe that the use of this circuit with a repeating coil cutout key is not warranted, due to the very low transmission loss even when the repeating coil is in the circuit on all connections. However, if it is decided to equip the switchboard with cord circuits of this type it is our recommendation that there be not more than two cord circuits with repeating coil cutout keys and that these be placed on the left hand No. 1 and 2 cord circuits of each position.

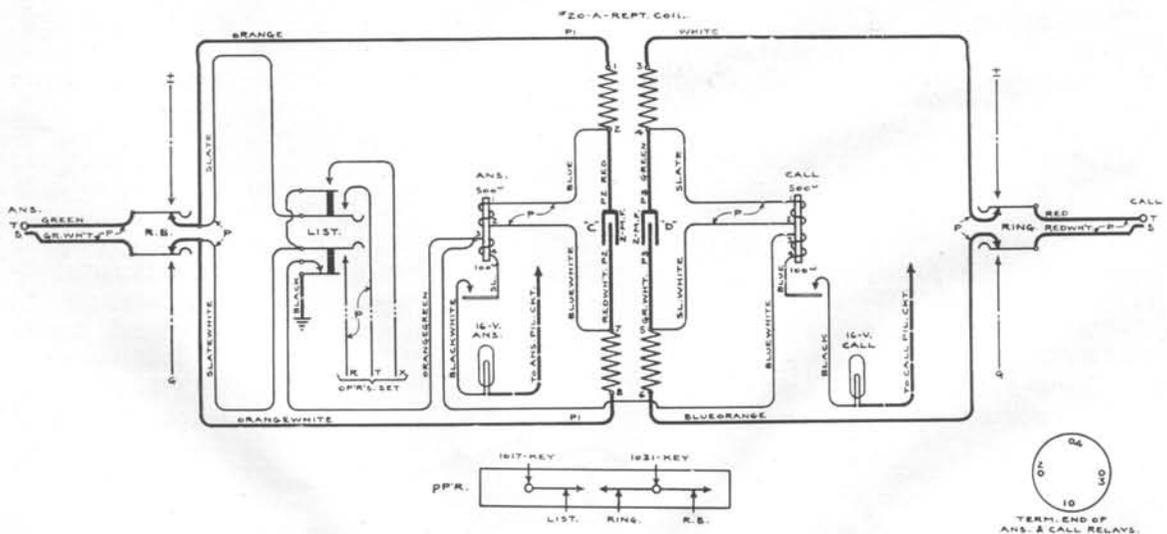
## Magneto Cord Circuit With Double Drop Supervision With Condensers ckt. No. 19050 T.



This cord circuit is designed primarily as a non-ring through cord circuit and works very successfully as such. It has the advantage of being cheaper than a cord circuit equipped with repeating coils. But, however, cord circuits equipped with condensers in the talking circuits are not as efficient for transmission as those using repeating coils. Transmission efficiency in the condenser used in this type of cord circuit is sacrificed to make them function as non-ring through circuits. Also, a cord circuit of this type does not have the balancing qualities between circuits that a repeating coil cord circuit has.

This cord circuit however, is very satisfactory and is extensively used. The transmission loss is not objectionable, it is non-ring through and has positive ring off drop supervision on both cords. It is equipped for ringing on both the calling and answering cords and can be equipped with any type of selective ringing circuit desired, either using master keys or with individual party ringing keys per cord circuit. It is simple to operate, has a very low maintenance cost and will meet all reasonable requirements.

## Magneto Cord Circuit With Double Lamp Supervision and Repeating Coil ckt. No. 34007 L. R.



This cord circuit is exactly the same as the No. 20237 T. R. cord circuit with the one

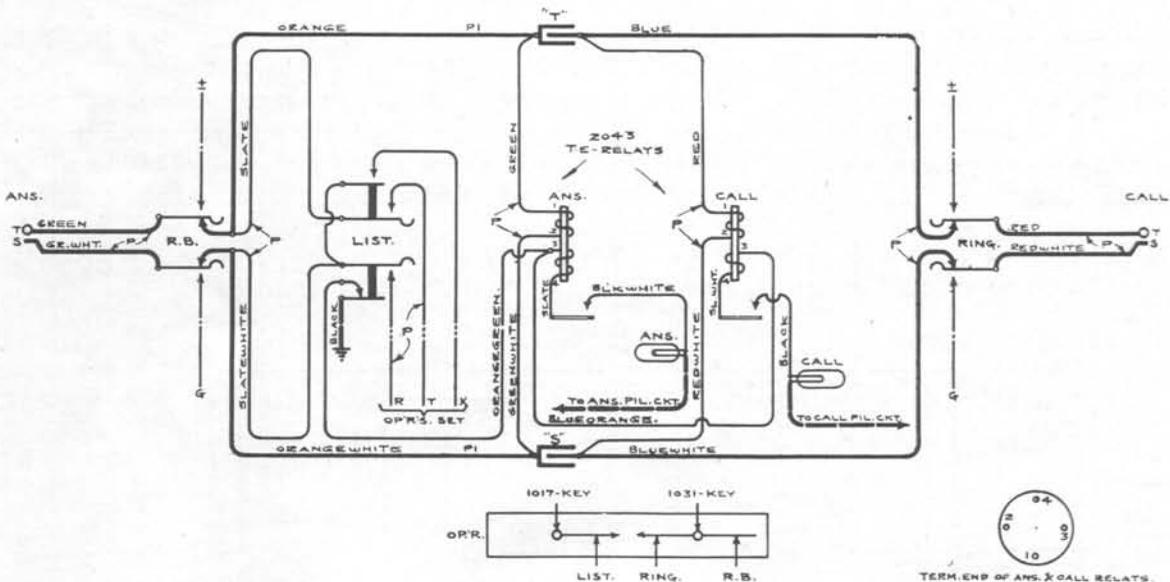


mission loss on Kellogg repeating coils is less than one-half mile and there is no real need for this feature. In fact, the repeating coils used on these switchboards are so efficient that the actual gain in transmission when the repeating coil is cut out is so small as not to be noticeable.

The cutting out of the repeating coil leaves but one supervisory signal lamp on the circuit and this will function when a party on either the answering or calling cord rings. When the repeating coil is cut out the circuit becomes a straight through cord circuit with no transmission loss.

While the cost of this circuit is very little more than the No. 34007 L. R. circuit we believe the use of this circuit with the repeating coil cut out key is not warranted due to the very low transmission loss even when the repeating coil is in the circuit on all connections. However, if it is decided to equip the switchboard with cord circuits of this type it is our recommendation that there be not more than two cord circuits, with repeating coil cut out keys and that these be on left hand No. 1 and No. 2 cord circuits of each position.

### Magneto Cord Circuit With Double Lamp Supervision With Condensers ckt. No. 32577 L.

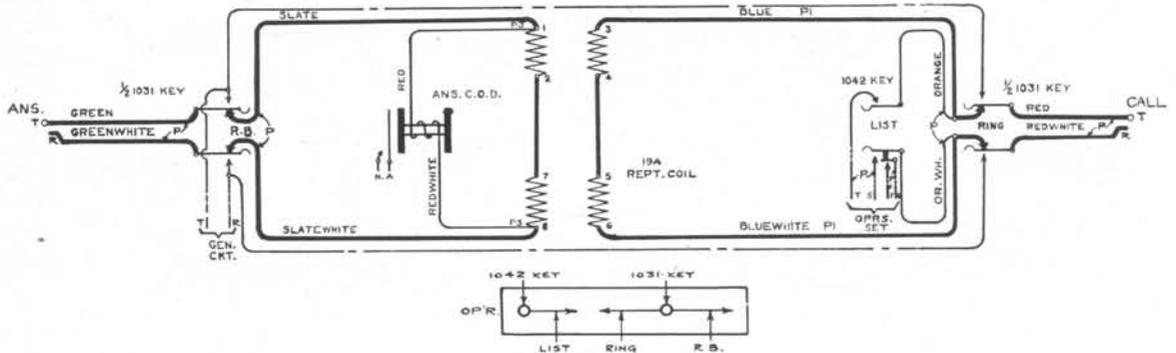


This cord circuit is designed primarily as a non-ring through cord circuit and works very successfully as such. It has the advantage of being cheaper than a cord circuit equipped with repeating coils. But, however, cord circuits equipped with condensers in the talking circuit are not as efficient for transmission as those using repeating coils. Transmission efficiency in the condenser used in this type of cord circuit is sacrificed to make them function as non-ring through circuits. Also, a cord circuit of this type does not have the balancing qualities between circuits that a repeating coil cord circuit has.

This cord circuit is very satisfactory, the transmission loss is not objectionable, it is non-ring through and has positive ring off lamp supervision on both cords. It is equipped for ringing on both the calling and answering cords and can be equipped with any type of selective ringing circuit desired, either using master keys or with individual party ringing keys for each cord circuit. It is very simple to operate, has a very low maintenance cost, and will meet all reasonable requirements.

## Magneto Cord Circuit With Single Drop Supervision and Repeating Coil

ckt. No. 20260 S. R. (Fig. A)



This cord circuit is not recommended where high efficiency, double supervision or a non-ring through type of cord circuit is desired. This cord circuit is used where it is necessary to have a repeating coil in every connection. The repeating coil used in this circuit is known as our No. 19A and is a combination talk and ring through coil. There is but one ring-off drop in the cord circuit and this drop is operated by a ring from the subscriber on either the answering or calling cord.

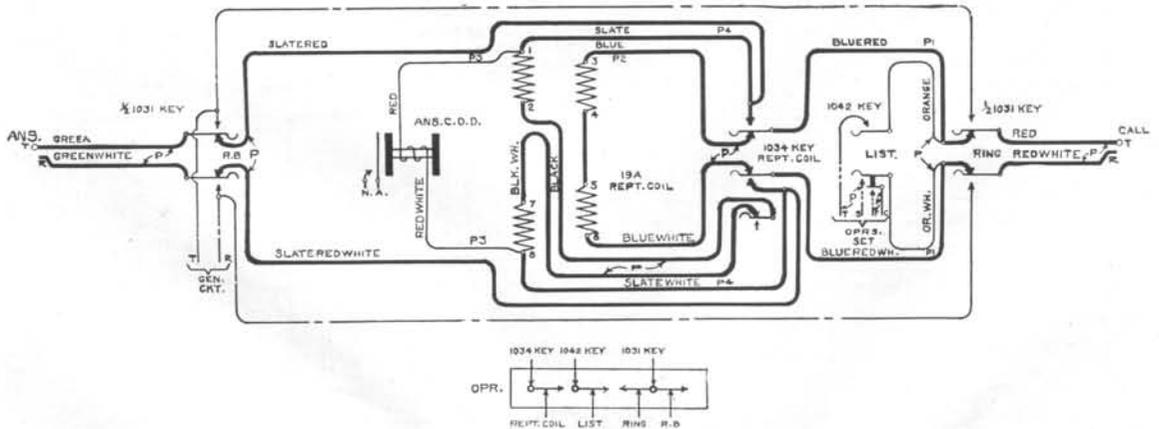
This cord circuit must not be confused with our non-ring through type as it is known as a ring-through circuit and either party on either the calling or answering cord can ring across the cord and not only ring the ring-off drop but ring all bells connected on the cord pair.

This cord circuit assures good transmission and a positive single ring-off from either cord. It is equipped for ringing on both the calling and answering cords and can be equipped with any type of selective ringing circuit desired, either using master keys or with individual party ringing keys per cord circuit.

This makes a very satisfactory cord circuit of the single supervision ring-through type with repeating coil. The transmission loss is less than one-half mile. The circuit is simple to operate and has a low maintenance cost.

## Magneto Cord Circuit With Single Drop Supervision, Repeating Coil, and Repeating Coil Cut Out Key

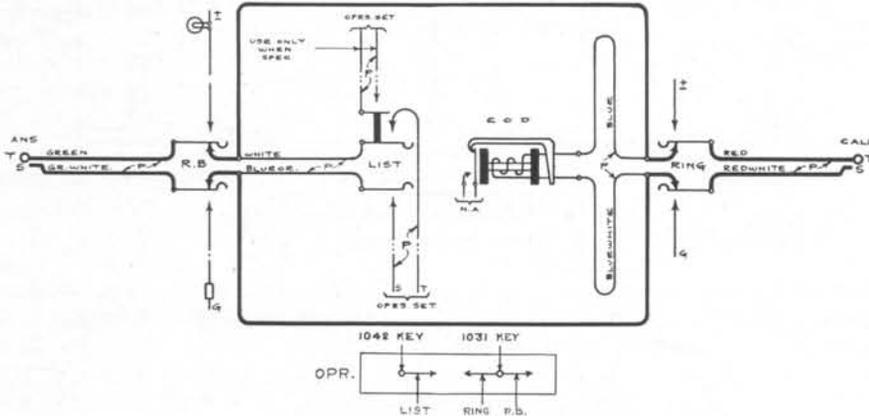
ckt. No. 20260 S. R. K. (Fig. B)



This cord circuit is exactly the same as cord circuit No. 20260 S. R. previously described with the one exception that it has in addition a repeating coil cut out key which is used to cut the repeating coil out on through toll line connections. There are few instances however, where magneto exchanges are called upon to do this or have the lines available

for through connections and we consider this feature quite unnecessary. The transmission loss on Kellogg repeating coils is less than one-half mile and there is no real need for this feature except where the switchboard is equipped with the following, No. 19055-S cord circuit and then we recommend that two cord circuits of this type be included on each position and that these be placed on the left hand No. 1 and No. 2 cord circuits.

**Magneto Cord Circuit With Single Drop Supervision**  
**ckt. No. 19055-S**

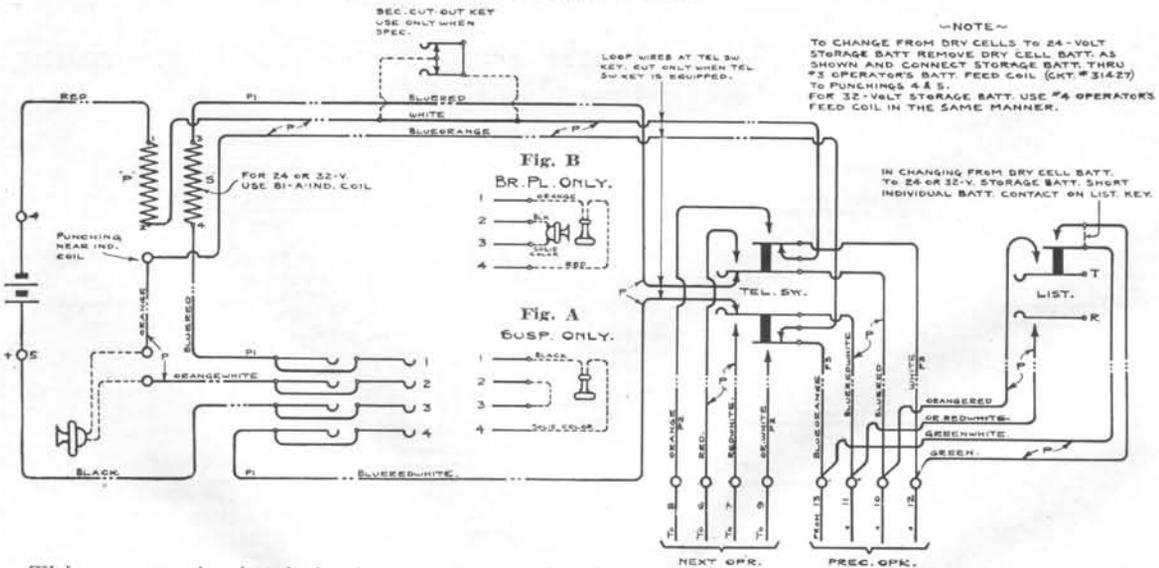


This is recommended as a very efficient cord circuit, but is not to be confused with the high efficient talk and non-ring through types of circuits previously described.

The talking efficiency of this circuit is the very highest and for toll connections is the best but when used to connect local subscribers it has the very great disadvantage of ringing through from one cord circuit to the other on a ring-off or recall.

**Magneto Operator's Telephone Circuit With Either Suspended (Fig. A) or Breast Plate (Fig. B) Type Transmitter. Circuit Operated From Dry Batteries.**

**Circuit No. 20153**

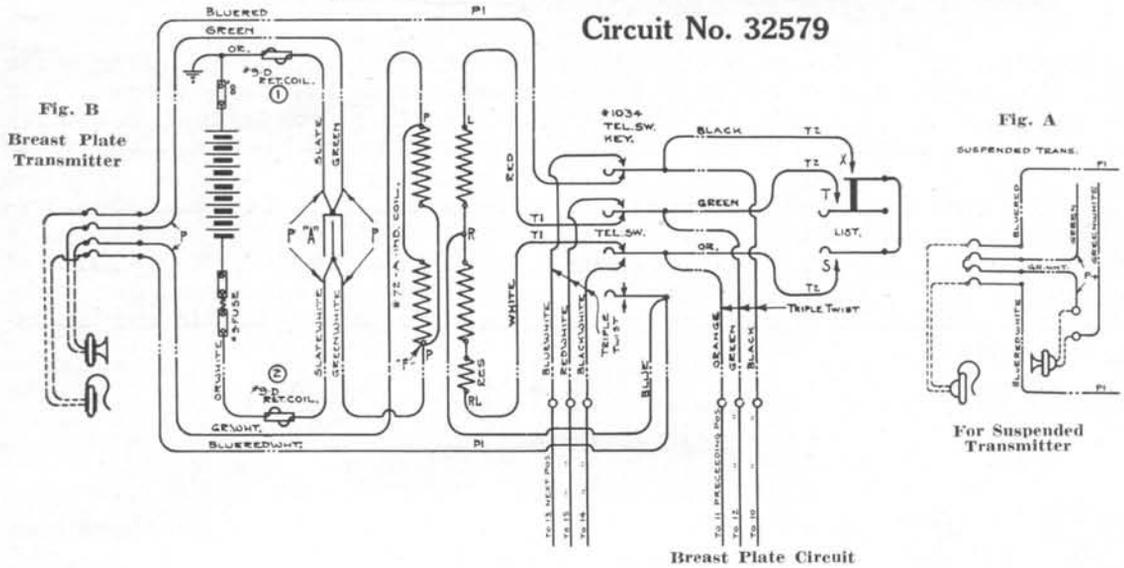


This operator's circuit is the one commonly used on all magneto switchboards when dry batteries are used to supply current for the transmitter. The circuit is very efficient both for receiving and transmitting.

When this circuit is used with dry batteries the transmitter battery feed circuit remains open excepting when the operator has a listening key operated in the listening position.

This assures the most economical battery drain possible and prolongs the life of the dry batteries.

**Magneto Operator's Telephone Circuit With Either Suspended (Fig. A) or Breast Plate Type Transmitter (Fig. B). Circuit Operated From Storage Batteries.**



This circuit is the one used on all magneto switchboards where a 24-volt storage battery is used to supply current for the transmitter. This circuit is also very efficient for both receiving and transmitting.

Where requested, a telephone switching key is included in either of the above circuits. The purpose of this key is to make it possible, where there is more than one operator position, to connect these positions so that all of the cord circuits in the adjoining positions can be connected to any one of the operator sets.

These circuits show the terminals which are used for switching positions. In the two position board, position 1 would be the "preceding" operator and position 2, the "next" operator. In boards having more than two positions, the next higher numbered position would be the "next" operator and the lower numbered position, the "preceding" operator.

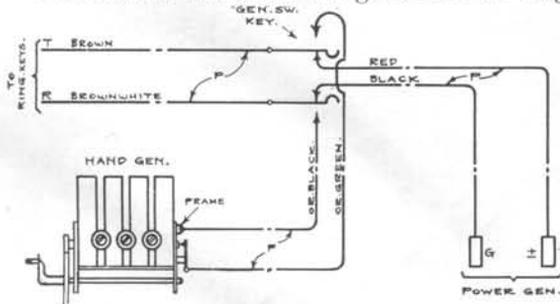
This instrument circuit can be easily changed from suspended to breast plate type or the reverse by the changing of the wires as shown in the different figures of each circuit.

Also circuit No. 20153 can be changed to 24-volt battery operation as described in the circuit note.

If required, a secondary cut out key can be included in either of these circuits which, when operated, will cut the transmitter out and allow the operator to listen in and supervise toll connections without disturbing the parties talking with side tone from the operator's instrument.

**Generator Circuit No. 20284**

This shows the standard generator or ringing circuit for Kellogg magneto switchboards.



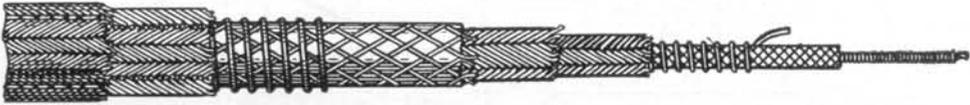
This circuit is to be commended for its extreme simplicity and completeness.

All switchboards are arranged for both power and hand generator ringing and have a switching key wired in the circuit conveniently located so that the operator can switch the circuit from power to hand generator by simply operating the key.

All switchboards are equipped with five-bar generators.

## MAGNETO SWITCHBOARD APPARATUS

### Switchboard Cords



Kellogg Switchboard & Supply Company have made the cordage problem a thing of the past. Kellogg Switchboard cords are built of steel wire wound over braided tinsel. The steel conductors are practically unbreakable while the presence of copper tinsel insures the lowest resistance to talking circuits. Only the best grade of material is used in the insulation.

The outer braid is tangentially sewed at the plug end so that the cord can be cut back several times, assuring the longest possible service.

To protect the outer braid from deterioration caused by the cords becoming saturated with perspiration from the operator's hands, they are treated with a compound that works down into a glazed moisture-proof coating making the cords perfectly flexible, and increasing the life of the outer braid three-fold.

### Switchboard Plugs



Kellogg No. 42 plugs are used with all Kellogg Magneto Switchboards and have been especially designed for Magneto service.

The tip of the No. 42 plug is of the same diameter as the sleeve and, consequently, gives greater spring displacement than a plug containing a ball-like tip of smaller diameter, which is necessary in the plug used for both Magneto and Common Battery work. The tip of the No. 42 plug contains a conical point which makes its insertion sure and swift and assures long life.

The Kellogg plug is extremely strong and simple. Heavy hard rubber insulation is employed, the center of the plug being a strong steel pin. The tip is screwed down over the threaded end against the head of the rubber bushing, holding all members of the plug firmly in place.

The outside of the plug is covered with a fibre handle which has been found much more durable for this purpose than the more brittle hard rubber. The high grade materials and careful construction make this plug last without any "maintenance" until completely worn from natural usage.

### Cord Weights



No. 9

Many excellent cords have had their life materially shortened due to the use of cord weights of poor design. Kellogg cord weights are of lead which is encased in a steel shell.

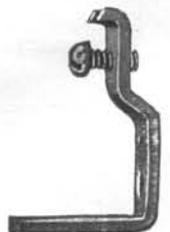
The top portion of the weight contains a grooved box-wood roller on which the cord runs.

These weights operate perfectly and the cords do not become tangled.

### Cord Fasteners

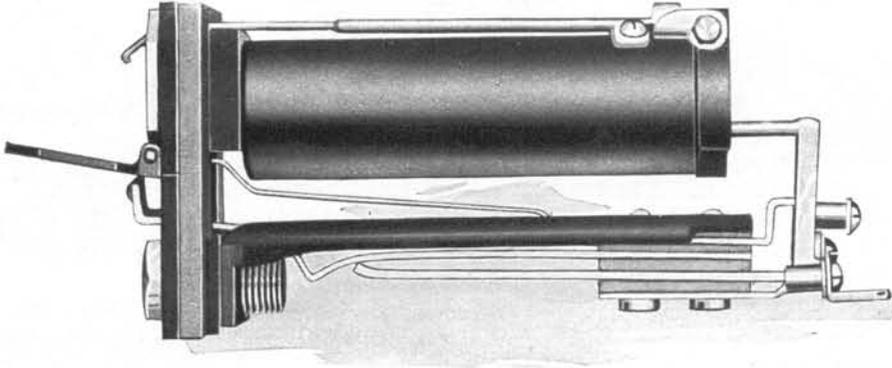
Kellogg cord fasteners are of steel with a heavy coating of tin, making the soldering of connections an easy matter. They are securely fastened to the cord rack by a wood screw. The switchboard cord end is fastened under a screw connection.

These cord fasteners are mounted in an accessible place, making it an easy matter to change cords.



No. 5

## Combined Drops and Jacks



For View of the Kellogg Combined Drop and Jack with Parts Listed and Described. See Page 133.

The Kellogg combined drop and jack is the last word in efficient signalling devices for magneto switchboards. It is absolutely reliable in operation, and the signals are visible from any angle. The drop shutter is of the advanced hinge type construction. There is no loose pin to work out.

The operation of the armature releases the shutter, and, in addition, forces it down. It falls to almost a 90% angle.

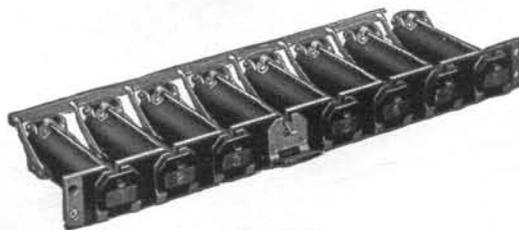
The drop is extremely sensitive and will operate with the least electrical impulse. It will give a good, clean rattle and its mechanism is designed so that the drop shutter will respond reliably no matter how badly the plug may be worn.

The jack is of the single line spring construction with a chafing knife edge drop circuit contact. This type of cut-off contact has proven the greatest success of any jack ever built.

The jack is extremely simple, having only the tip and cut-off spring in addition to the regular night alarm spring. The sleeve line conductor uses the frame of the jack and the sleeve thimble provides a long surface contact. This sleeve thimble is of the removable type and permits easy replacement when it has become too badly worn for proper operation.

The frame of the jack is of the punched metal construction which permits uniform and rigid assembly. The terminals on the jack are of the screw type.

## Clearing Out Drops



8 Per Strip

Kellogg ring-off or "clearing out" drops, as they are sometimes called, are similar in design, and embody all the points of excellence found in the Kellogg line drops.

They are sensitive. The shutters are forced to fall, assuring positive signal. Kellogg drops are of rust proof construction and are fitted with No. 1 metal contacts for the night alarm and pilot lamp signals, the same as the drops used in the line circuits.

## Condensers

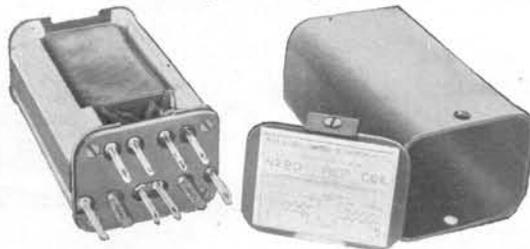


No. 128

The condensers used in Kellogg Magneto switchboards have been especially designed for this particular service. They possess high insulation resistance and will never become short circuited or "go open" in service, and, while they permit the passage of talking current, they effectually hold back ringing currents and prevent them from operating bells on a connected line.

Only the best grade of tin-foil and paraffin paper are used in the making of Kellogg condensers. The tin-foil type of construction is more expensive, but is absolutely reliable and free from trouble.

## Repeating Coils



No. 20A Repeating Coil

The Kellogg No. 20A repeating coil is used in the cord circuits of our Magneto Switchboards and is a talk-through coil only. Due to the peculiar shape of the laminations used, the coil is practically unaffected by low frequency current, thus becoming strictly a non-ringing-through coil.

This coil is made up of four concentric windings wound on an open lamination, and has a transmission loss of less than one half mile.

This coil is designed to mount on a regular relay mounting strip, and occupies the same space as the circuit relays.

The shell is of pressed steel and is cross-talk proof. The terminals are brought out in such a manner that the connections can be made similar to that of a standard Kellogg relay.

## Transmitters



Suspended Transmitter

Kellogg transmitters are of the reverse back type used by the Kellogg Company for the past twenty-seven years. Unique in design and original in principle, they are a happy combination of quality and efficiency.

Kellogg transmitters give unusually long service; thousands of our first transmitters are still giving good service and have been in constant use for over twenty years. Such service proves the design of the Kellogg transmitter to be correct, as well as the materials of which it is made and Kellogg methods of efficient manufacture.

The diaphragm is made of hard drawn aluminum with a carbon-retaining cup formed in the center of its face. Exceedingly hard and uniform sized carbon, that is free from dust, is used. Great care is exercised in preparing this carbon, and each granule has a highly polished surface.

Electrodes are made from a special grade of dense carbon, copper plated on one face, and, through this metal, carefully soldered to backing discs.

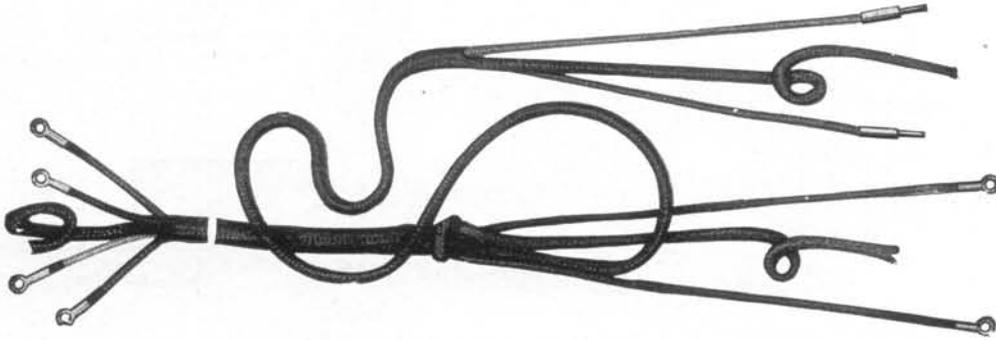
The exposed surface of the carbon is accurately finished to size and highly polished without any filling. The Kellogg transmitters are just as efficient on long distance as on local work, and, due to their high transmission efficiency, they make operating a pleasure.



Breast Plate Transmitter



## Operator's Cords



Kellogg operator's cords are made of 18 strands of tinsel twisted together in three ropes of 6 strands each. Over which is placed one wrapping of plain white cotton impregnated with a moisture-proof compound. Over this is placed one braid of plain green cotton and it is then covered over all with a green silk braid.

Only the best grades of materials are used in making up Kellogg cordage. Our cord department is considered the foremost in the country in complete up-to-date equipment for the production of the most durable and practical cordage for every type of telephone service.

## Operator's Plugs



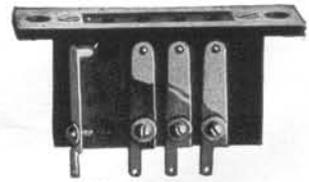
No. 182 Opr. Plug

The Kellogg No. 182 operator's plug is used with our Magneto Switchboards.

This four-prong plug is of durable construction and easy to handle. It has no sharp corners or projections to catch on the operator's dress. The prongs are mounted in black fibre and the cord terminals are connected to the plug with nickel-plated brass terminal screws. The cord is so arranged that all strain is removed from the terminal connections.

## Operator's Jack

The No. 325A operator's jack is used with the No. 182 operator's plug. This jack mounts in the lower left hand end of the key shelf. The jack consists of a black fibre mounting plate attached to a steel escutcheon plate. Special springs assure positive contact with the prongs of the operator's plug.



No. 325A Jack

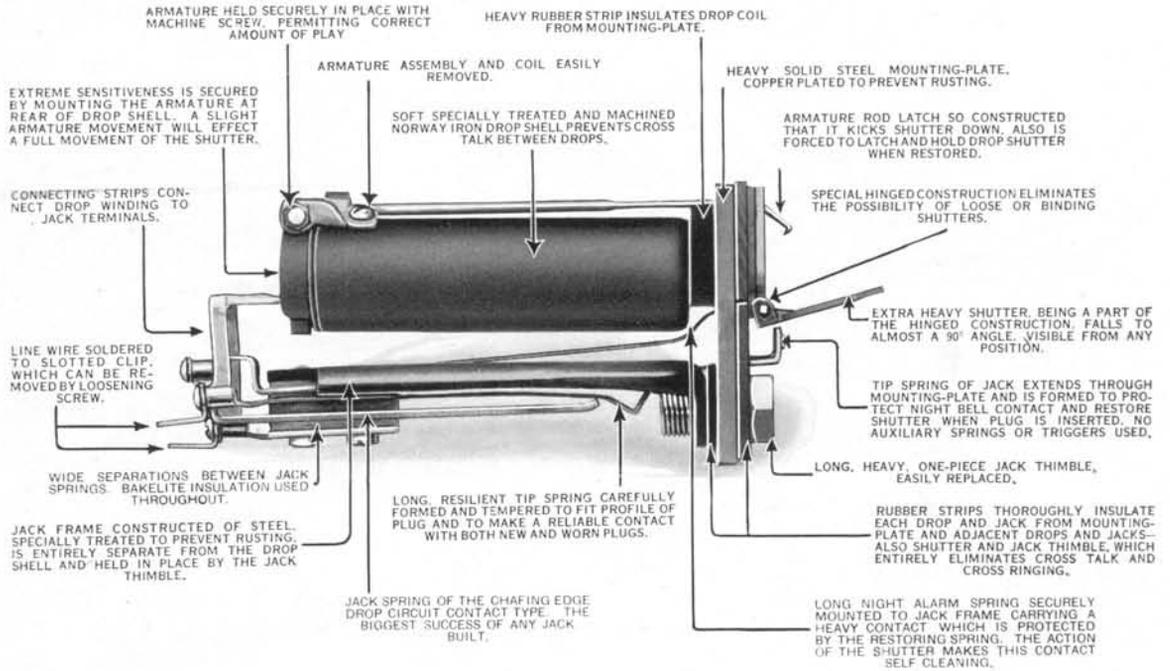
This operator's jack mounts flush with the key shelf and makes a very neat looking installation.

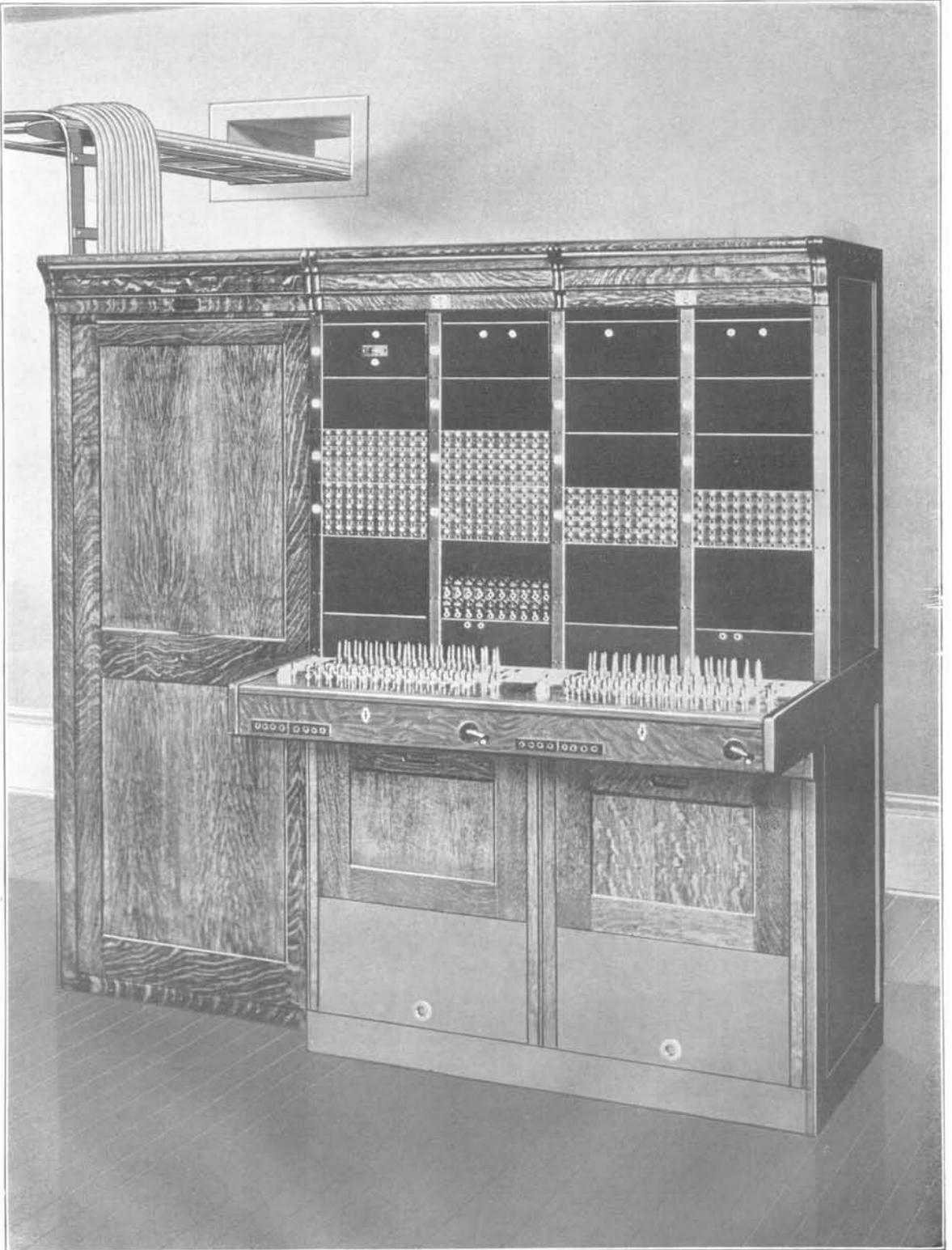
## Night Alarm

This equipment consists of the night alarm spring mounted on a Kellogg combined drop and jack and a night alarm bell. The operation of the shutter closes the circuit, ringing the bell.

It contains a minimum number of parts, and the contact points are so arranged to prevent interference from the accumulation of dust.

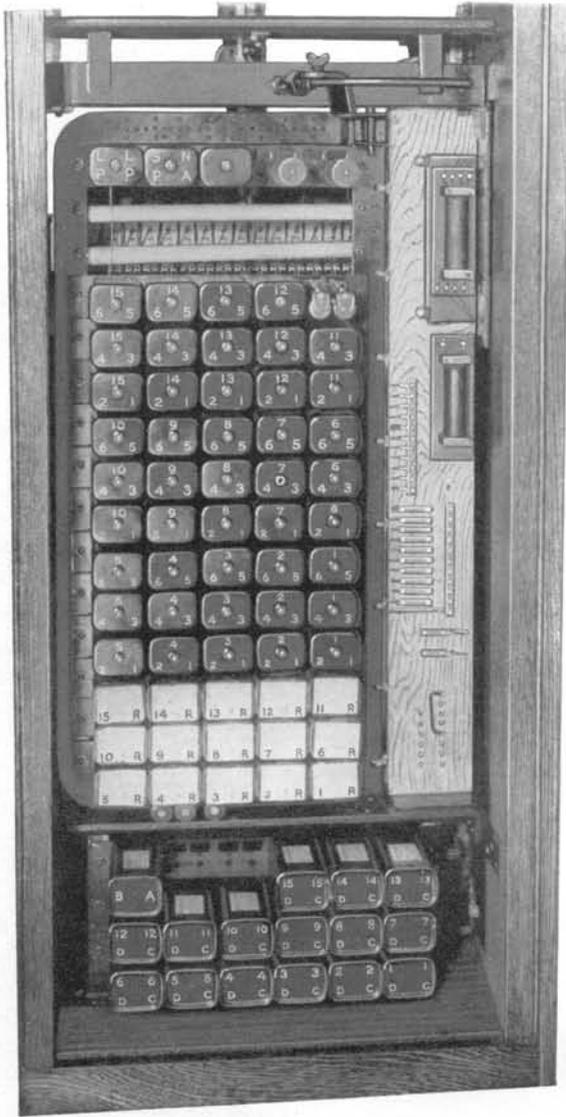
# KELLOGG SWITCHBOARD AND SUPPLY COMPANY, CHICAGO



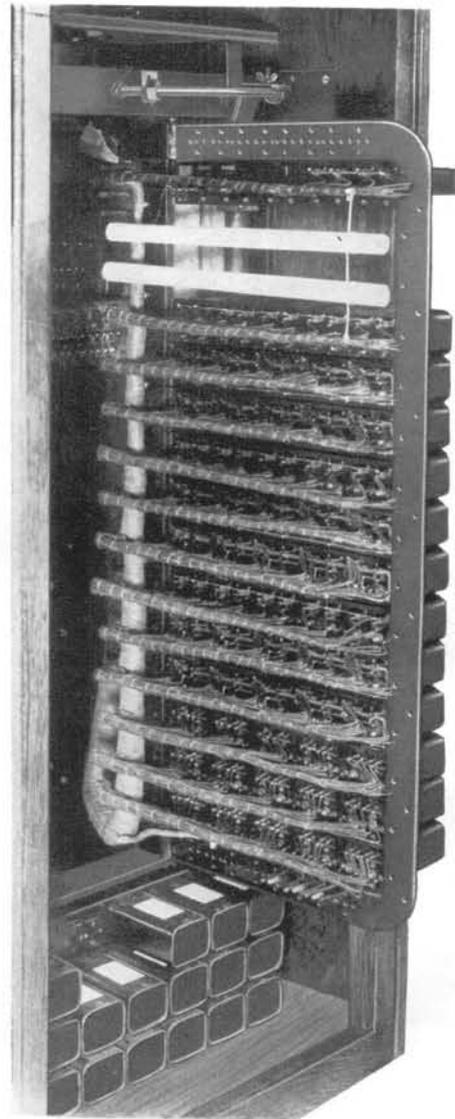


*Kellogg Unit Type Universal Switchboard*

**In Referring to This Page—153—Please Mention Catalogue No. 7**



*Cord Relay Rack and connecting panel, showing gate in closed position*



*Relay gate open, showing wiring*

## ARMS—TRANSMITTER

### For Telephones

Kellogg Adjustable Transmitter Arms are of pressed brass and steel construction, and are free from heavy or brittle castings. They adjust readily, and easily, and are so designed as to keep their adjustment. They are attractively finished in black enamel, and all wiring is concealed.



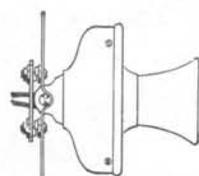
Code No. 42  
Transmitter Arm

No. 42—This pressed steel arm is used on deep shelf magneto and short back board type, and common battery sets;  $4\frac{3}{4}$ " long; adjustable to 18 degrees above and 12 degrees below horizontal; concealed cord; replaces all former types; net weight 8 ounces.



Code No. 41  
Transmitter Arm

No. 39—The transmitter back of this arm is of punched brass, nickel plated, the balance punched steel. This arm is used on steel residence sets;  $\frac{3}{4}$ " long; adjustable to 15 degrees above and 15 degrees below horizontal; concealed cord.



Code No. 39  
Transmitter Arm

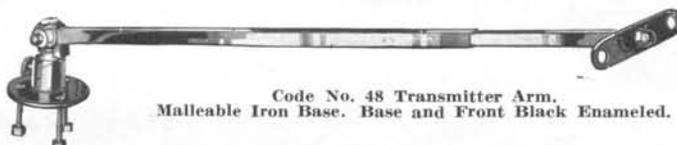
No. 41—The transmitter back of this arm is of punched brass, nickel plated, and balance of the arm is of pressed steel, black enameled; adjustable to 15 degrees above and 15 degrees below horizontal. This arm is used on residence type sets, and requires a 2" opening in woodwork to mount; concealed cord; net weight, 5 ounces.



Code No. 50  
Transmitter Arm

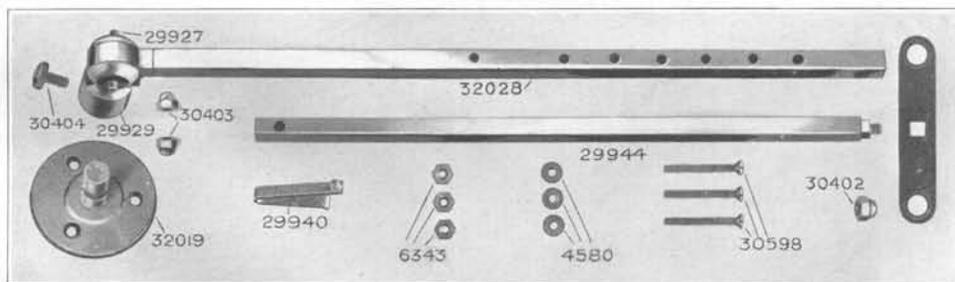
No. 50. This arm consists of the base of No. 42 and the transmitter mounting of the No. 41 Arm. This is the standard arm for magneto telephones and all other wood cabinet instruments. Depth from transmitter to back,  $2\frac{5}{8}$ ".

### For Switchboards



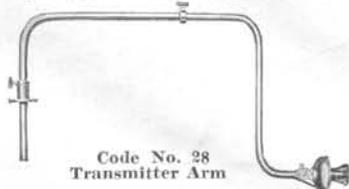
Code No. 48 Transmitter Arm.  
Malleable Iron Base. Base and Front Black Enameled.

No. 48—Switchboard transmitter arm is of the adjustable type. It is made of heavy brass with a durable nickel finish. It can be used on all types of small switchboards, and is a marked improvement over other styles. This arm eliminates the usual cord weight. It is equipped with horizontal and vertical swivel joints, making it possible to place in any position, and making it possible to hold the transmitter conveniently for use, whether in a standing or sitting position. This arm is especially valuable with P. B. X.'s or Magneto Switchboards, where the operator or attendant has other work to do, and uses an adjoining desk or counter; standard lengths  $15\frac{1}{2}$ "; net weight 25 ounces.



Piece Parts No. 48 Transmitter Arm

|   |           |
|---|-----------|
| Base—32019, Support—29929, Stud—29927, Nut .....                                    | Mountings |
| Tube Assembled (Outside).....   | 30403     |
| Tube Assembled (Inside).....  | 32028     |
| Spring with Stop—29940, Nut—30402, Screw, 30404, Screw—30598, Washer—6343, Nut 4580 | 2944      |

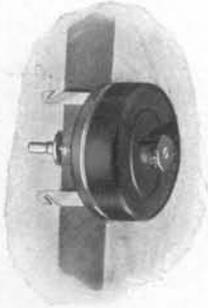


Code No. 28  
Transmitter Arm

No. 28—Switchboard arm is used on desk and small boards. It is made of brass tubing, heavily nickel plated; cords are concealed. Minimum length  $16\frac{1}{4}$ ", maximum,  $22\frac{3}{4}$ ". This arm is equipped with swivel joint, enabling it to be swung either to the right or left.

## ARRESTERS

### Telephone



No. 3

No. 3. This neat carbon disk type arrester is suitable for any standard wood telephone and is easily cleaned. It is  $1\frac{1}{8}$ " in diameter and arranged for mounting on  $\frac{3}{8}$ " wood.

### Bars—Distributing, Bus (Fuse Posts)

Distributing bars are used on switchboards for battery commons, ground strips and fuse terminals. They are finished in rolled brass and furnished with round head brass machine screws with washers. They are divided into two types, the No. 3 and 5, No. 3 type measuring  $\frac{1}{4}$ "x $\frac{1}{4}$ " and No. 5 type  $\frac{1}{4}$ "x $\frac{3}{8}$ ". Code numbers and lengths are listed below.



No. 3



No. 5

| Code No. | No. of Points | No. 3 Type      |  | Length            | Stock                            |
|----------|---------------|-----------------|--|-------------------|----------------------------------|
|          |               | Centers Spaced  |  |                   |                                  |
| 3        | 1             | .....           |  | $1\frac{1}{2}$ "  | $\frac{1}{4}$ "x $\frac{1}{4}$ " |
| 4        | 3             | $\frac{1}{2}$ " |  | $2\frac{1}{2}$ "  | $\frac{1}{4}$ "x $\frac{1}{4}$ " |
|          |               | No. 5 Type      |  |                   |                                  |
| 5        | 4             | $\frac{1}{2}$ " |  | $2\frac{9}{16}$ " | $\frac{1}{4}$ "x $\frac{3}{8}$ " |
| 10       | 5             | $\frac{1}{2}$ " |  | $3\frac{1}{16}$ " | $\frac{1}{4}$ "x $\frac{3}{8}$ " |
| 12       | 6             | $\frac{1}{2}$ " |  | $3\frac{3}{16}$ " | $\frac{1}{4}$ "x $\frac{3}{8}$ " |
| 15       | 8             | $\frac{1}{2}$ " |  | $4\frac{9}{16}$ " | $\frac{1}{4}$ "x $\frac{3}{8}$ " |
| 18       | 10            | $\frac{1}{2}$ " |  | $5\frac{1}{16}$ " | $\frac{1}{4}$ "x $\frac{3}{8}$ " |
| 19       | 12            | $\frac{1}{2}$ " |  | $6\frac{9}{16}$ " | $\frac{1}{4}$ "x $\frac{3}{8}$ " |
| 23       | 15            | $\frac{1}{2}$ " |  | $8\frac{1}{16}$ " | $\frac{1}{4}$ "x $\frac{3}{8}$ " |

## BELLS—EXTENSION

These extension bells are for auxiliary use with wall or desk telephones and are used where conditions make the regular telephone bells inaudible, such as in factories, warehouses, garages, machine shops, etc.

Ringers are mounted in wood or steel boxes with two line terminals or binding posts, gongs are finished in black enamel.

When ordering specify same ringer resistance or frequency as telephone with which it is to be used.

|  |                          |     |                  |                  |
|--|--------------------------|-----|------------------|------------------|
| Harmonic four and eight party frequencies..... | 30                       | 42  | 54               | 66               |
| Corresponding ringer resistance.....           | All 1000 ohm resistance. |     |                  |                  |
| Harmonic four party frequencies.....           | 33 $\frac{1}{3}$         | 50  | 66 $\frac{2}{3}$ | 16 $\frac{2}{3}$ |
| Corresponding ringer resistance.....           | 500                      | 500 | 500              | 2500             |
| Harmonic two party frequencies.....            |                          |     |                  | 20               |
| Corresponding ringer resistance.....           |                          |     |                  | 2500             |
|  |                          |     |                  | 500              |

### Flat Steel Type—With Condensers

#### 2 $\frac{1}{2}$ -inch Gongs

| Code No. | Resistance  | Condenser      | Use                    |
|----------|---|----------------|------------------------|
| 63SA     | 1000 ohms   | 1 M. F.        | Straight line service. |
| 63BA     | 1000 ohms   | 1 M. F.        | Biased line service.   |
| 63HA     | 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$ cycles | 1 M. F.        | 4 party line service.  |
| 63HB     | 30, 42, 54, 66  | cycles 1 M. F. | 4 party line service.  |
| 63HC     | 20, 60  | cycles 1 M. F. | 2 party line service.  |



Flat Steel Extension Bell.

### Flat Steel Type—Without Condensers

#### 2 $\frac{1}{2}$ -inch Gongs

|       |   |        |                        |
|-------|---|--------|------------------------|
| 163SA | 1000 ohms   |        | Straight line service. |
| 163BA | 1000 ohms   |        | Biased line service.   |
| 163HA | 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$ cycles |        | 4 party line service.  |
| 163HB | 30, 42, 54, 66  | cycles | 4 party line service.  |
| 163HC | 20, 60  | cycles | 2 party line service.  |

### Loud Ringing Extension Bells Wood Type—With Condensers

#### 6-inch Gongs

|      |   |                |                        |
|------|---|----------------|------------------------|
| 47SA | 1000 ohms   | 1 M. F.        | Straight line service. |
| 47BA | 1000 ohms   | 1 M. F.        | Biased line service.   |
| 47HA | 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$ cycles | 1 M. F.        | Harmonic line service. |
| 47HB | 30, 42, 54, 66  | cycles 1 M. F. | Harmonic line service. |

#### 4-inch Gongs

|      |   |                |                        |
|------|---|----------------|------------------------|
| 48SA | 1000 ohms   | 1 M. F.        | Straight line service. |
| 48BA | 1000 ohms   | 1 M. F.        | Biased line service.   |
| 48HA | 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$ cycles | 1 M. F.        | Harmonic line service  |
| 48HB | 30, 42, 54, 66  | cycles 1 M. F. | Harmonic line service  |



Loud Ringing Bell, Wood Type.

### Loud Ringing Extension Bells—Wood Type—Without Condensers

#### 6-inch Gongs

|       |           |  |                        |
|-------|-----------|--|------------------------|
| 147SA | 1000 ohms |  | Straight line service. |
| 147SD | 1600 ohms |  | Straight line service. |

### Oak Cabinet Extension Bells

#### For Magneto Telephone Service

#### 2 $\frac{1}{2}$ -inch Gongs

|      |   |        |                        |
|------|---|--------|------------------------|
| 37SA | 1000 ohms   |        | Straight line service. |
| 37SD | 1600 ohms   |        | Straight line service. |
| 37SG | 2500 ohms   |        | Straight line service. |
| 37BA | 1000 ohms   |        | Biased line service.   |
| 37HA | 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 50, 66 $\frac{2}{3}$ cycles |        | Harmonic line service. |
| 37HB | 30, 42, 54, 66  | cycles | Harmonic line service. |



Oak Cabinet Extension Bell.

Note: For Weatherproof Loud Ringing Bells, see Index.

## MAGNETO DESK SET BOXES

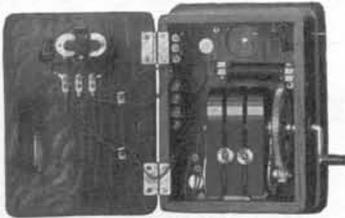
Kellogg Magneto Desk Set Boxes are extra compact, and convertible to common battery. The cabinet is made of heavy quartered oak, with our standard golden oak finish. All apparatus is securely mounted in the most practical manner. The exposed parts are heavily black enameled. All Magneto Desk Stand Boxes are equipped with our standard connecting rack.

The following code boxes are equipped with condenser, induction coil, generator, and ringer, as specified below.

These boxes are used with our No. 84 desk set and No. 115 Grabaphone.



No. 2328



Open View  
No. 2328

### Straight Line Ringer

| Code No.   | Ringer            | Generator                |
|--|-------------------|--------------------------|
| F-2409   | No. 78-A 1000 ohm | No. 15 3-Bar Alternating |
| <b>STRAIGHT LINE RINGER WITH NO. 28-C INDUCTION COIL—</b>                              |                   |                          |
| F-2328   | No. 78-A 1000 ohm | No. 15 3-Bar Alternating |
| F-2361   | No. 78-D 1600 ohm | No. 53 5-Bar Alternating |
| F-2362   | No. 78-G 2500 ohm | No. 53 5-Bar Alternating |
| <b>WITH NO. 28, 1/2 M. F. CONDENSER IN RECEIVER CIRCUIT—<br/>NO. 28 INDUCTION COIL</b> |                   |                          |
| F-2363   | No. 78-A 1000 ohm | No. 15 3-Bar Alternating |
| F-2364   | No. 78-D 1600 ohm | No. 15 3-Bar Alternating |
| F-2365   | No. 78-G 2500 ohm | No. 15 3-Bar Alternating |
| F-2366   | No. 78-A 1000 ohm | No. 22 4-Bar Alternating |
| F-2367   | No. 78-D 1600 ohm | No. 22 4-Bar Alternating |

### Magneto With No. 28, 1/2 M. F. Condenser—No. 28C Induction Coil

| Code   | Ringer            | Generator                 |
|--------|-------------------|---------------------------|
| F-2370 | No. 78-D 1600 ohm | No. 53 5-Bar Alternating. |
| F-2371 | No. 78-G 2500 ohm | No. 53 5-Bar Alternating. |

### Biased Ringer—No. 28C Induction Coil

|        |                   |                           |
|--------|-------------------|---------------------------|
| F-2327 | No. 79-A 1000 ohm | No. 15 3-Bar Alternating. |
| F-2372 | No. 79-G 2500 ohm | No. 15 3-Bar Alternating. |

### Harmonic Selective Ringer

|        |                  |  |
|--------|------------------|--|
| F-2410 | No. 73-A 4-Party | No. 15 3-Bar Alternating (no Ind. Coil). |
|--------|------------------|--|

### Harmonic Selective Ringer—No. 28C Induction Coil

| Code   | Ringer                                       | Generator                 |
|--------|--|---------------------------|
| F-2326 | No. 73-A 4-Party<br>30, 42, 54 and 66 cycles | No. 15 3-Bar Alternating. |

### Straight Line Ringer—Condenser and Push Button for Grounded Signalling— No. 28C Induction Coil

|        |                   |                           |
|--------|-------------------|---------------------------|
| F-2376 | No. 78-D 1600 ohm | No. 53 5-Bar Alternating. |
|--------|-------------------|---------------------------|

### Straight Line Ringer—Condenser and Push Button for Secret Signalling— No. 28C Induction Coil

|        |                   |   |
|--------|-------------------|---|
| F-2374 | No. 78-D 1600 ohm | No. 59 5-Bar Pulsating and Alternating. |
|--------|-------------------|---|

## Desk Set Boxes for Railway Dispatching Service

These boxes are of the same construction as our standard Magneto Desk Stand Boxes. They are equipped with binding post for attaching an additional push button or key if required.

| Code   | Generators   | Retard or Resistance Coil | Condenser | Induction Coil | Push Button | Ringer        |
|--------|--------------|---------------------------|-----------|----------------|-------------|---------------|
| F-2416 | No. 53 5-Bar | 30-F, 30-G                | 12        | 28-C           | 26          |               |
| F-2417 | No. 15 3-Bar | 30-F, 30-G                | 12        | 28-C           | 26          |               |
| F-2418 | No. 53 5-Bar | 4-L Resis. Coil           | 25        | 28-C           | 14          |               |
| F-2419 |              |                           | 25        | 28-C           |             |               |
| F-2402 |              | 30-G                      | 25-28     | 66-A           | 14          |               |
| F-2422 | No. 74 3-Bar | 4-L Resis. Coil           | 25        | 28-C           | 14          | 78-G 2500 ohm |

### Heavy Duty Desk Set Boxes for Oil Field Service With Special Heavy High Power Generator

| Code | Generator    | Induction Coil | Ringer |
|------|--------------|----------------|--------|
| 2415 | No. 75 6-bar | 28-C           | 78-G   |

### Common Battery Desk Set Boxes. See Common Battery Telephones

Page No. 14

### Generator Boxes

Generator only mounted in cabinet similar to No. 2328.

| Code   | Generator    | Widely used by      |
|--------|--------------|---------------------|
| F-2420 | No. 22 4-bar | railroads, and in   |
| F-2421 | No. 53 5-bar | other installations |

where generator alone in cabinet is required.

## COILS—INDUCTION

### Common Battery Switchboards

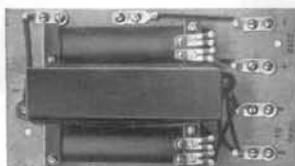
| Code No.  | Length Overall | Width Overall | Height Overall | No. of Terminals | No. of Windings | Res. Primary Winding | Res. 1st. Sec. Winding | Res. 2nd Sec. Winding | Res. Tertiary Winding | Use                                     |
|---|----------------|---------------|----------------|------------------|-----------------|----------------------|------------------------|-----------------------|-----------------------|---|
|  No. 5A  | 5 3/8"         | 1 7/8"        | 1 1/4"         | 4                | 2               | 64                   | 68                     |                       |                       | Coil and terminals mounted on oak base. |
| 7A  | 6 "            | 2 1/8"        | 2 1/8"         | 6                | 3               | 65                   | 90                     |                       | 435                   | Maple base holding terminals.           |
|  No. 7A  | 6 "            | 2 "           | 1 3/4"         | 8                | 4               | 28.5                 | 45                     | 45                    | 410                   | 4 Concentric coils.                     |
| 32A   | 6 "            | 2 "           | 1 3/4"         | 8                | 4               | 28.5                 | 135                    | 135                   | 425                   |   |
| 17A   | 6 "            | 2 "           | 1 3/4"         | 8                | 4               | 28.5                 | 62                     | 410                   | 474                   | 4 Concentric coils.                     |
| 17B   | 6 "            | 2 "           | 1 3/4"         | 8                | 4               | 28.5                 | 62                     | 1475                  | 474                   |   |
|  No. 72A | 6 "            | 2 1/8"        | 1 1/2"         | 5                | 4               | 12                   | 82                     |                       |                       | 1st coil                                |
|   | 6 "            |               |                |                  |                 |                      | 12                     |                       |                       | 2nd coil                                |

### Miscellaneous

|   |        |     |        |   |   |     |      |  |  |  |
|---|--------|-----|--------|---|---|-----|------|--|--|--|
|  No. 35A | 5 3/4" | 2 " | 3 1/2" | 5 | 2 | 1.5 | 51.5 |  |  | Used with No. 2 Howler.  |
|  No. 66A | 3 "    | 1 " | 2 "    | 3 | 2 | 8   | 51.5 |  |  | Combined interrupter and induction coil for railroad telegraph sets. |

### Operator's Feed Coils

These coils are used in magneto switchboards with No. 81A induction coils to supply operators' transmitters with current from storage batteries. One No. 81A induction coil and one battery feed coil is used in each position.



No. 3A

3A No. 34 Condenser, 2 No. 9D Retard. coils.

For use on 24-volt pole changer storage battery.

4A No. 34 Condenser, 2 No. 9E Retard. Coils.

For use on 32-volt lighting current.

## COILS—REPEATING

The repeating coils listed below replace all former types and represent our latest development in coils and are superior to any now on the market for both ringing and transmission efficiency.

The cores are made of Silicon steel laminated, and the windings are completely enclosed in heavy cross-talk proof cases.



No. 16

Height  $3\frac{3}{4}$  in. Width  $3\frac{1}{2}$  in.  
Depth  $2\frac{1}{2}$  in.



No. 17

Height  $3\frac{3}{4}$  in. Width  $3\frac{3}{4}$  in.  
Depth  $2\frac{3}{4}$  in.

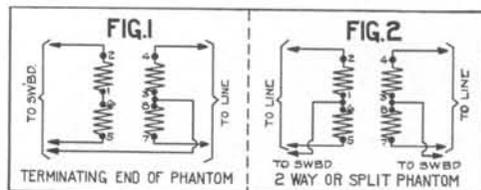
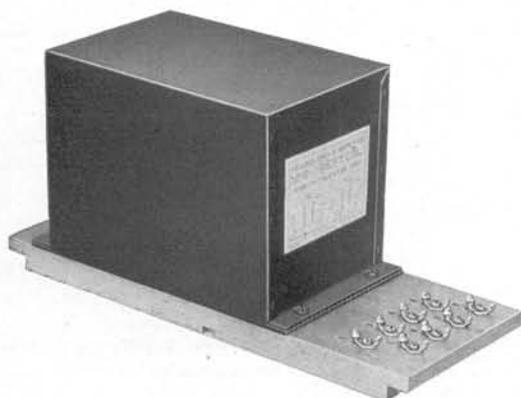


No. 20

Height  $1\frac{3}{8}$  in. Width  $2\frac{3}{8}$  in.  
Length  $4\frac{1}{8}$  in.

| Code | Description  | Use  |
|------|--|--|
| 17-F | Has two windings in tandem and two in parallel.                            | Especially designed for phantom work and particularly adaptable to grounded phantoms, since the windings are separated there is less possibility of the coil being subjected to the effects of lightning.  |
| 18-B | Similar to No. 18-A except has two windings in tandem and two in parallel. | Especially designed for rural phantom work and particularly adaptable to grounded phantoms, since the windings are separated there is less possibility of the coil being subjected to the effects of lightning. Talk and ring through efficiency practically same as No. 18-A. |
| 16-A | 2 concentric windings, 16- and 20-ohms. Net weight, 3 lbs. 3 oz.           | Common battery cord and trunk circuits, non-ring through type. Formerly used in magneto double supervisory cord circuits. Used anywhere a non-ring through coil is desired for wood mounting.  |
| 19-A | 4 concentric windings, 15.3, 17.1, 18.8, 20.9-ohms.                        | For magneto cord circuits where a ring and talk through coil is required. Mounts on relay strips or can be mounted on individual angle mountings Nos. 1012, 1013 or 1014.  |
| 20-A | 4 concentric windings, 12.1, 13.7, 15.2, 16.6-ohms.                        | Talk through only. Magneto cord circuits and local trunk ckts. Mounts on relay strips or can be mounted on individual mountings Nos. 1012, 1013 or 1014.   |

## COILS—REPEATING; PHANTOM AND SIMPLEX



Connections No. 18A.  
Over all Dimensions  
10 $\frac{3}{4}$ "x4"x5 $\frac{1}{4}$ "

The No. 18-A phantom coil was designed to meet the urgent need of a coil which could be introduced at the center of a physical circuit to obtain an intermediate phantom or telegraph circuit.

Heretofore, when service of this kind was required, it was necessary to introduce two repeating coils in each physical circuit making a total of four additional coils which decreased the transmission and ringing efficiency. The old arrangement was necessary due to the fact that previous coils were not perfectly balanced in each half.

The No. 18-A Coil is arranged to mount on standard coil racks and has a resistance on  $\frac{1}{2}$  of the transformer circuit of 11.4 ohms, which is made up of two windings of 5.7 ohms each. The other half of the transformer circuit has a total resistance of 15 ohms, which is made up of two windings of 7.5 ohms each. The coil is perfectly balanced on either half. This means that if necessary to bridge on a phantom, the No. 18-A coil may be introduced at the center of two physical circuits and the phantom may be split and operated in either direction without interference on the physical circuits.

The transmission loss to telephone values is less than one-half mile, No. 19 gauge cable having a mutual capacity of .054 M. F. per mile. It has greater ringing efficiency than any other coil on the market.

The No. 18-A repeating coil, when used to obtain an intermediate telegraph station on a simplex telephone circuit, eliminates the thump which is usually present when unbalanced coils are used.

This coil has been placed in service on lines where other repeating coils, including the No. 46-A, have been used and a material increase in efficiency has been noticed.

## COILS — RESISTANCE

Kellogg resistance coils have a sufficiently large carrying capacity and radiating surface to prevent them from overheating. They are wound with enamel insulated special resistance wire, which is enameled in our own wire enameling plant, and which has proven under test and in practice to be superior to any other enamel wire made. These coils are made in suitable forms so that they can be mounted where it is found most convenient. We are prepared to furnish resistance coils in the type illustrated below in any resistance.



No. 1 Type

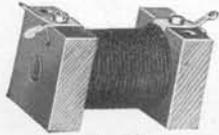
| Code | Resistance | Size of Spec. Res. Wire | Code | Resistance  | Size of Spec. Res. Wire |
|------|------------|-------------------------|------|-------------|-------------------------|
| 1A   | 1,000 ohms | No. 36                  | 1K   | 50 ohms     | No. 29                  |
| 1B   | 500 ohms   | No. 36                  | 1L   | 1 ohm       | No. 22                  |
| 1C   | 100 ohms   | No. 29                  | 1M   | 2,000 ohms  | No. 36                  |
| 1D   | 700 ohms   | No. 36                  | 1N   | 10,000 ohms | No. 40                  |
| 1E   | 30 ohms    | No. 29                  | 1P   | 500 ohms    | No. 38                  |
| 1F   | 200 ohms   | No. 29                  | 1Q   | 250 ohms    | No. 30                  |
| 1G   | 3,000 ohms | No. 36                  | 1R   | 10,000 ohms | No. 40                  |
| 1H   | 10 ohms    | No. 26                  | 1S   | 300 ohms    | No. 31                  |
| 1J   | 120 ohms   | No. 29                  | 1T   | 450 ohms    | No. 34                  |
|      |            |                         | 1U   | 6,000 ohms  | No. 38                  |

## COILS—RESISTANCE



No. 4 Type

| Code | Resistance  | Size of Spec. Res. Wire | Code  | Resistance | Size of Spec. Res. Wire |
|------|-------------|-------------------------|---|------------|-------------------------|
| 4A   | 500 ohms    | No. 28                  | 4G  | 1,500 ohms | No. 32                  |
| 4B   | 400 ohms    | No. 28                  | 4H  | 160 ohms   | No. 28                  |
| 4C   | 300 ohms    | No. 28                  | 4J  | 5,000 ohms | No. 34                  |
| 4D   | 50 ohms     | No. 25                  | 4K  | 5 ohms     | No. 29 Copper           |
| 4E   | 100 ohms    | No. 28                  | 4L  | 250 ohms   | No. 28                  |
| 4F   | 200 ohms    | No. 28                  | 4M  | 1,000 ohms | No. 30                  |
| 5A   | 10,000 ohms | No. 38                  | 4N  | 2,400 ohms | No. 34                  |
| 29   | Variable    | No. 18                  | } Also see non-inductive relay coils which can be used as resistance coils. |            |                         |
| 30A  | 48,000 ohms |                         |   |            |                         |
| 31A  | 300 ohms    | No. 35                  |   |            |                         |
| 32A  | 16 ohms     | No. 35                  |   |            |                         |



No. 5A

## COILS—RETARDATION

See Relay Coils

Kellogg retardation coils are made over a core of soft iron wire or on coils having laminated cores of silicon steel. They are wound with the proper size enamel wire, and number of turns, and have the proper amount of iron. The coils are thoroughly tested for resistance and inductance. The function of retardation coils is to feed battery and to isolate or limit fluctuating or alternating currents to some particular circuits. All conditions under which these coils are to be used must be considered carefully and the proper coil selected to meet these conditions.

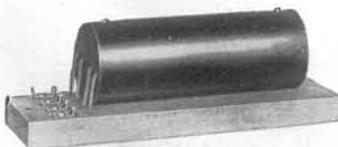


No. 8  
Base 2x6 in. Coil 4½x1¾ in.

No. 9  
3½x1¼x1 in.



No. 10  
2¼x1 in. Diam.



No. 11  
Base 9x2¾ in.  
Coil Diam. 2¼ in.; Length 6 in.

| Code No. | Type              | Term | Resist      | Size of Wire | Winding                 |
|----------|-------------------|------|-------------|--------------|-------------------------|
| 8A       | Open              | 2    | 100         | 29           | Single                  |
| 8B       | Open              | 2    | 200         | 30           | Single                  |
| 8C       | Open              | 2    | 350         | 32           | Single                  |
| 8D       | Open              | 2    | 30          | 26           | Single                  |
| 8E       | Open              | 2    | 500         | 32           | Single                  |
| 8F       | Open              | 2    | 400         | 32           | Single                  |
| 8G       | Open              | 2*   | 200c/800GS  | 31&32        | Single                  |
| 8H       | Open              | 2    |             |              |                         |
| 9A       | Open              | 2    | 25          | 27           | Single                  |
| 9B       | Open              | 2    | 150         | 32           | Single                  |
| 9C       | Open              | 2    | 200         | ....         | Single                  |
| 10A      | Cast Iron Encased | 2    | 500         | 37           | Single                  |
| 10B      | Cast Iron Encased | 2    | 100         | 32           | Single                  |
| 10C      | Cast Iron Encased | 2    | 200         | 34           | Single                  |
| 10D      | Cast Iron Encased | 2    | 1000        | 39           | Single                  |
| 10E      | Cast Iron Encased | 2    | 300         | 35           | Single                  |
| 10F      | Cast Iron Encased | 2    | 800c/700GS  | 40&38        | Single                  |
| 10G      | Cast Iron Encased | 2    | 30          | 30           | Single                  |
| 10H      | Cast Iron Encased | 2    | 40          | 30           | Single                  |
| 10J      | Cast Iron Encased | 2    | 1800c/200GS | 40&38        | Single                  |
| 10K      | Cast Iron Encased | 2    | 50          | 31           | Single                  |
| 10L      | Cast Iron Encased | 2    | 70          | 32           | Single                  |
| 10M      | Cast Iron Encased | 2    | 150         | 33           | Single                  |
| 10N      | Cast Iron Encased | 2    | 250         | 35           | Single                  |
| 10P      | Cast Iron Encased | 2    | 175         | 34           | Single                  |
| 11A      | Closed            | 4    | 60/60       | 26           | 2 parallel on one spool |

**COILS—RETARDATION**



No. 14  
2¼x1½ in. Diam.



No. 16  
¾x1 ft. Diam.



No. 18  
2½x1½ in. Diam.



No. 21  
Shell Over All  
3¾x1½ in. Diam.



No. 22  
Shell Over All  
3½x1½ in. Diam.



No. 23A  
11½x6¾ in.



No. 24  
3½ in. x 1 in.



No. 25  
Shell Over All  
3½x1½ in.



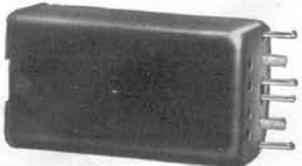
No. 28  
Base 8½x2½ in.



No. 29  
Base 11½x6¾ in.

| Code No. | Type              | Term. | Res.      | Size of Wire | Winding         |
|----------|-------------------|-------|-----------|--------------|-----------------|
| 12A      | Closed            | 4     | 15/15     | 19           | 2 on 2 spools   |
| 12B      | Closed            | 4     | 25/25     | 20           | 2 on 2 spools   |
| 14A      | Cast Iron Encased | 4     | 250/250   | 37&37        | 2 coils concent |
| 14B      | Cast Iron Encased | 4     | 100/100   | 35&35        | " " "           |
| 14C      | Cast Iron Encased | 4     | 25/25     | 32&32        | " " "           |
| 14D      | Cast Iron Encased | 4     | 10/10     | 29&29        | " " "           |
| 14E      | Cast Iron Encased | 4     | 500/500   | 39&39        | " " "           |
| 14F      | Cast Iron Encased | 4     | 50/50     | 33&33        | " " "           |
| 14G      | Cast Iron Encased | 4     | 150/150   | 36&36        | " " "           |
| 16A      | Open              | ----  | 33        | 31           | Single          |
| 16B      | Open              | ----  | 100       | 34           | "               |
| 18A      | Open              | 2     | 25        | 28           | "               |
| 21A      | Closed            | 2     | 350       | 33           | Ind. non Ind.   |
| 21B      | Closed            | 2     | 100       | 30           | " " "           |
| 21C      | Closed            | 2     | 30        | 28           | " " "           |
| 21D      | Closed            | 2     | 2000      | 39           | " " "           |
| 21E      | Closed            | 2     | 500       | 34           | " " "           |
| 21F      | Closed            | 2     | 32        | 18           | " " "           |
| 21G      | Closed            | 2     | 50        | 29           | " " "           |
| 21H      | Closed            | 2     | 1000      | 36           | " " "           |
| 21J      | Closed            | 2     | 300       | 33           | " " "           |
| 21K      | Closed            | 2     | 1500      | 37           | " " "           |
| 21L      | Closed            | 2     | 200       | 32           | " " "           |
| 22A      | Closed            | 4     | 75/75     | 32           | 2 Tandem        |
| 22B      | Closed            | 4     | 100/100   | 32           | "               |
| 22C      | Closed            | 4     | 150/150   | 34           | "               |
| 22D      | Closed            | 4     | 250/250   | 35           | "               |
| 22E      | Closed            | 4     | 200/200   | 34           | "               |
| 23A      | Closed            | 2     | .125      | 12           | Single          |
| 23B      | Closed            | 2     | 23        | 12           | "               |
| 25A      | Closed            | 4     | 1000/1000 | 39           | Parallel        |
| 25B      | Closed            | 4     | 2000/2000 | 39           | "               |
| 25C      | Closed            | 4     | 50/50     | 32           | "               |
| 28A      | Closed            | 2     | 1500      | 32           | Single          |
| 28B      | Closed            | 2     | 1000      | 31           | "               |
| 29A      | Closed            | 4     | 8.8/8.8   | 20           | Tandem          |
| 29B      | Closed            | 4     | 27/27     | 23           | "               |
| 29C      | Closed            | 4     | 500/500   | 30           | Parallel        |
| 29D      | Closed            | 4     | .34/34    | 13           | Tandem          |

**COILS — RETARDATION**

|  | Code | Type   | Term. | Resist.     | Size of Wire | Winding             |
|--|------|--------|-------|-------------|--------------|---------------------|
| <br>No. 30<br>Adjustable Core Over All<br>3 7/8 x 1 in. | 30A  | Open   | 2     | 1.9         | 21           | Single              |
|  | 30B  | Open   | 2     | 50          | 29           | "                   |
| No. 31 similar to No. 11   | 30C  | Open   | 2     | 100         | 31           | "                   |
| No. 34 same as No. 21, but with<br>rubber heads  | 30D  | Open   | 2     | 7.5         | 24           | "                   |
|  | 30E  | Open   | 2     | 25          | 27           | "                   |
|  | 30F  | Open   | 2     | 3.5         | 23           | "                   |
|  | 30G  | Open   | 2     | 150         | 31           | "                   |
| <br>No. 35A<br>Base 10 3/4 x 6 1/4 in.                  | 31A  | Closed | 4     | 1500/1500   | 31           | Tandem              |
|  | 34A  | Closed | 2     | 2000        | 39           | Single              |
| No. 36 similar to No. 29   | 35A  | Closed | 2     | .125        | 12           | "                   |
| No. 39 similar to No. 29   | 36A  | Closed | 4     | 500/500     | 30           | Parallel            |
|  | 36B  | Closed | 4     | 50/50       | 25           | "                   |
|  | 39A  | Closed | 8     | 44/44 44/44 | 26           | 4 Wires<br>Parallel |
| <br>No. 40<br>3 3/4 x 2 7/8 in.                       | 40A  | Closed | 4     | 44/44       | 28           | Parallel            |
|  | 40B  | Closed | 4     | 500/500     | 34           | "                   |
|  | 41A  | Closed | 2     | .08         | 14           | Single              |
|  | 42A  | Open   | 2     | 25          | 27           | "                   |
|  | 43A  | Open   |       | 165/165     | 34           | Parallel            |
| <br>No. 44  | 44A  | Closed | 4     | 54/54       | 27           | Tandem              |
|  | 44B  | Closed | 4     | 200/200     | 31           | "                   |
|  | 45A  | Closed | 4     | 80/80       |              | Single              |
|  | 55A  | Closed |       | 39/39 39/39 | 39           | "                   |
|  | 56A  | Closed | 4     | 57/57       | 29           | Tandem              |
|  | 58A  | Closed | 2     | 25          |              | Single              |
| <br>No. 41<br>Base 7 x 3 in.                          |      |        |       |             |              |                     |
| <br>No. 42<br>4 1/8 x 1 7/8 x 1 in. Diam.             |      |        |       |             |              |                     |
| <br>No. 56A  |      |        |       |             |              |                     |

## CONDENSERS

### For Telephones, Switchboards and General Use

Kellogg Condensers are manufactured by the most modern process and are of the best materials obtainable. Special tin foil and paraffin paper are used in the construction of all our condensers, rather than the metallized paper process, which is not satisfactory for general use.

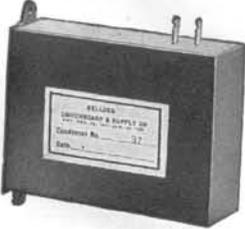
The tin foil type of construction is more expensive, but is thoroughly reliable and free from trouble and is the only condenser that will withstand high frequency currents, such as auto, ignition and radio work. It is well known that where an ordinary condenser fails the installation of a Kellogg will prevent further trouble.

We are prepared to furnish condensers for special work providing the quantity is large.

### For Telephones

|  | Code | M. F. Cap. | Height  | Width  | Thickness | Use  |
|--|------|------------|---------|--------|-----------|--|
|   | 28*  | 1/2        | 2 3/4"  | 1 1/4" | 1 1/8"    | Receiver circuit Magneto Telephones.   |
|  | 10   | 1/2        | 2 3/4"  | 1 1/4" | 3/4"      | Base of No. 39 Stand No. 111 Cradle set.   |
| <b>No. 28</b>  | 20   | .2         | 2 3/4"  | 1 1/4" | 3/4"      | Special three layers of paper and one layer of tin foil.   |
|  | 77*  | 1/2        | 3 1/8"  | 1 1/4" | 3/4"      | Similar to No. 28, except mounting ear is bent flat and is parallel with side of case                      |
|    | 12   | 1          | 4 1/8"  | 2 "    | 3/8"      | Telephones and bell boxes.   |
|  | 16   | 2          | 4 1/8"  | 2 1/8" | 1 1/8"    | Telephones and bell boxes, also common battery cord circuits.  |
| <b>No. 12</b>  | 41   | 1.5        | 4 1/8"  | 2 1/8" | 7/8"      | Special. Similar to No. 16.  |
|  | 90   | 1          | 4 1/8"  | 2 1/8" | 1 1/8"    | Two 1/2 M. F. condensers in same case. Similar to No. 16.  |
|  | 110  | 2          | 4 1/8"  | 2 1/8" | 1 3/8"    | Same as No. 16, except terminal head is specially treated for export use.                                  |
|  | 78   | 1          | 3 5/8"  | 1 1/2" | 1 3/8"    | Common battery wood telephones and bell boxes. Similar to No. 62.  |
|  | 62   | 2          | 3 5/8"  | 1 1/2" | 1 3/8"    | Common battery wood telephones and bell boxes.   |
|  | 103* | 1          | 4 7/8"  | 1 3/8" | 1 3/8"    | Same as No. 78, except mounting ear is on side.  |
|  | 53*  | 2          | 3 3/4"  | 1 3/8" | 1 3/8"    | In base of No. 97 desk stand. Similar to No. 103.  |
| <b>No. 16</b>  | 96*  | 2          | 4 1/8"  | 1 3/8" | 1 3/8"    | No. 110 Grabaphone unit set. Similar to No. 103.   |
|  | 105  | 1/2        | 4 1/8"  | 2 "    | 3/8"      | Similar to No. 12, but 1/2 M. F. to stand 1000 volts direct current, break down test.                      |
|  | 99*  | 1/2        | 3 3/8"  | 2 1/4" | 1 3/8"    | 4 papers 1000 volts D. C. Break-down test used in No. 2866 telephones. Similar to 103, but mounts on base. |
|  | 23   | 1          | 2 1/8"  | 3 "    | 1 "       | For 4 party sub. sets. Similar to No. 12.  |
|  | 13   | 1          | 3 1/8"  | 4 7/8" | 5/8"      | Special.   |
| <b>No. 62</b>  | 30   | 1          | 4 1/8"  | 2 "    | 3/8"      | Similar to No. 12, but with 3 terminals 1/2 M. F. from center terminals to either outside ones.            |
|  | 19   | 2          | 3 1/8"  | 4 7/8" | 5/8"      | Similar to No. 13, but 1 strawboard is used in place of space strip.                                       |
|  | 58   | 2          | 11 5/8" | 2 3/8" | 1 1/8"    | Flexible terminals 7 1/2" long, two 1 M. F. condensers in one case.  |

### For Switchboards

|   |     |     |        |        |        |  |
|---|-----|-----|--------|--------|--------|--|
|  | 37* | 1   | 3 "    | 3 3/4" | 1 "    | Formerly used in magneto switchboard cord circuits.                    |
|   | 68* | 1/2 | 3 3/8" | 2 1/4" | 1 3/8" | Magneto cord circuits.   |
|   | 67* | 1   | 3 3/8" | 2 1/4" | 1 3/8" | Magneto cord circuits.   |
|   | 66* | 2   | 3 3/8" | 2 1/4" | 1 3/8" | P. B. X. cord circuits.  |
| <b>No. 37</b>   | 64  | 2   | 2 3/4" | 1 3/8" | 1 3/8" | Same as No. 62, arranged to mount on steel mounting strip like relays. |
|   | 32* | 1/2 | 3 "    | 3 1/4" | 1 5/8" | Mounting ears on narrow side.  |
|   | 34* | 2   | 5 1/4" | 2 3/4" | 1 1/8" | Mounting ears on narrow side.  |

\*Denotes condensers with ears for mounting.

## CONDENSERS For Switchboards



No. 68

Code  
No. 36

M. F.  
Cap. 2

Height  
5 1/4"

Width  
2 3/2"

Thickness  
1 1/8"

Use  
Common battery cord circuits. Same as No. 16, except arranged to mount on steel mounting strip like relays.



No. 64

Code  
No. 54  
57  
101\*  
65\*

M. F.  
Cap. 1/2  
1  
1/2  
2

Height  
5 1/4"  
5 1/4"  
3 3/4"  
4 1/8"

Width  
2 3/2"  
2 3/2"  
1 3/2"  
1 3/2"

Thickness  
1 1/8"  
1 1/8"  
1 3/2"  
1 3/4"

Use  
Similar to No. 36.  
Same as No. 36, except capacity.  
Similar to No. 64.  
Similar to No. 64 with lugs on rear for holding can.



No. 34

Code  
No. 24  
25  
79

M. F.  
Cap. 1/2  
1  
.2

Height  
2 3/4"  
2 3/4"  
2 5/8"

Width  
2 1/8"  
2 1/8"  
1 7/8"

Thickness  
Round  
Round  
7/8"

Use  
Pole changers.  
Pole changers.  
Two 1. M. F. condensers under one case, special for telegraph service.



No. 36

Code  
No. 17  
31  
118

M. F.  
Cap. .3  
.05 to .1  
.75 to .80 to 1

Height  
4 3/4"  
5 3/4"  
4 1/8"

Width  
2 1/8"  
3/4"  
2 1/8"

Thickness  
7/8"  
Round  
1 1/8"

Use  
4 layers of paper to 1 layer of tin foil. Similar to No. 8.  
3 layers of paper to 1 of tin foil.  
Two units in one cover used with 412 desk set box.



No. 25

Code  
No. 11  
102  
108  
128

M. F.  
Cap. 4  
2.10  
4.20  
4

Height  
8 3/2"  
4 1/8"  
10 3/4"  
4 "

Width  
4 3/2"  
1 1/8"  
1 7/8"  
1 1/8"

Thickness  
1 1/8"  
2 3/8"  
2 7/8"  
2 3/2"

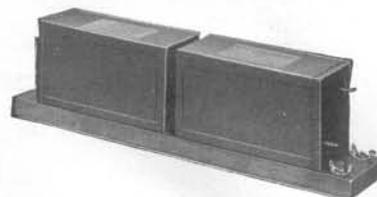
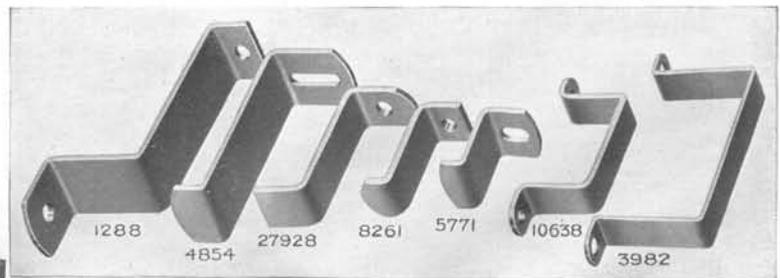
Use  
Two 2 M. F. condensers connected in multiple, one case overall. Similar No. 8.  
Balanced condenser.  
2 No. 102 condensers (paired) mounted on wood base.  
Twin condensers in case for No. 56 set coil.

\*Denotes condenser with ears for mounting.



No. 118

## Condenser Mounting Brackets



No. 108



No. 128

|           | Width<br>Inches | Thickness<br>Inches | Use                                |
|-----------|-----------------|---------------------|------------------------------------|
| Pc. 1288  | 2 1/8           | 1 1/8               | No. 16 and No. 90 condenser.       |
| Pc. 4854  | 2 1/8           | Any                 | With all condensers 2 1/8 wide.    |
| Pc. 27928 | 1 1/2           | Any                 | With all condensers 1 1/2 wide.    |
| Pc. 8261  | Any             | 1 3/2               | With all condensers 1 3/2 thick.   |
| Pc. 5771  | Any             | 3/4                 | With all condensers 3/4 in. thick. |
| Pc. 10638 | 1 1/8           | 3/4                 | With No. 10 and No. 20 condenser.  |
| Pc. 3982  | 2 1/8           | 1 1/8               | With No. 16 condenser.             |

## CORDS

**O**UR cords are built complete in our own factory. This department is considered foremost in the country in complete, up-to-date equipment for the production of the most durable and practical cordage for every telephone service.

It is the records of the switchboard man that tell the service value of the grade of wire, the number of strands of tinsel, the quality of the conductors, the manner of their braiding and winding on which we base our statement of Kellogg cordage superiority.

### KEY TO CORD CODES

The following letters are added to cord code numbers to designate the classification in which the cord belongs.

#### Apparatus Cords

|            |                                    |
|------------|------------------------------------|
| Code No.   |                                    |
| D. ....    | Desk Stand.                        |
| G. ....    | Grabaphone.                        |
| O. ....    | Operator transmitter and receiver. |
| O. R. .... | Operator receiver.                 |
| O. T. .... | Operator transmitter.              |
| T. R. .... | Telephone receiver.                |
| T. ....    | Transmitter.                       |

R—Preceding any of above designations, designates railroad type.

242 R. T. R. Cords means Railroad Telephone Receiver Cords.

#### Switchboard Cords

|            |                   |
|------------|-------------------|
| S. T. .... | Steel and tinsel. |
| T. O. .... | Tinsel only.      |

Code No. prefixed by F indicates flat Tip Pc. 33566.

Kellogg tinsel switchboard and telephone cords are completely moisture-proof.

Brown mercerized cords are standard, but green silk cords can be furnished when specified.

#### Abbreviations in Tables Following

|                  |        |
|------------------|--------|
| Inches .....     | In.    |
| Connector .....  | Conn.  |
| Connectors ..... | Conns. |
| Conductor .....  | Cond.  |
| Conductors ..... | Conds. |
| Soldered .....   | Sold'd |

## CORDS—DESK STAND

Kellogg desk stand cords are made up of the finest tinsel, covered with a double insulation of the best quality silk and cotton. The conductors are twisted together with a filler of jute and a brown mercerized braid over all. This construction gives a smooth and flexible cord as well as great durability.

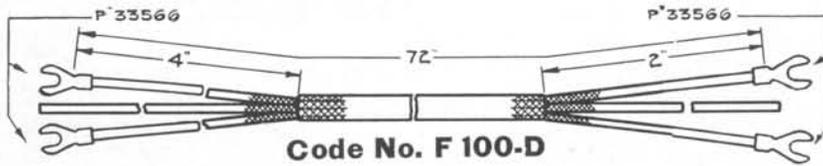
The conductors consist of 18 strands of tinsel twisted together in three ropes, each consisting of 6 strands of tinsel. Over this are two wrappings of silk impregnated with a moisture-proof compound. This is covered with a plain brown cotton braid, over which is placed the brown mercerized outer braid.

The green silk desk stand cords are of the same construction as the brown mercerized, except that the cotton braid is green and the outer covering is of green silk.

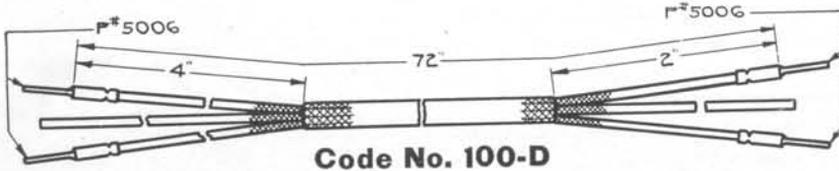
The black and maroon desk stand cord conductors are of 18 strands of tinsel twisted together into 3 ropes of 6 strands each, over which is placed 2 wraps of silk, impregnated with a moisture-proof compound. This is covered with a black mercerized cotton braid over which is placed a black and maroon mercerized cotton braid.

### 2 Conductor—Brown Mercerized

Green Silk Furnished When Specified



| Code No. | Tips and Conn. Stand End | Box End | Length of Conds. Stand End, In. | Box End, In. | Tracer Colors | Length Overall Inches | Remarks  |
|----------|--------------------------|---------|---------------------------------|--------------|---------------|-----------------------|--|
| F100D    | 33566                    | 33566   | 2                               | 4            | Brown, Black  | 72                    | For No. F97, F39, F78, F75 and F111 desk stands. |



### 2 Conductor—Brown Mercerized—18 Strand Tinsel

| Code No. | Tips and Conn. Stand End | Box End | Length of Conds. Stand End, In. | Box End, In. | Tracer Color | Length Over All Inches | Remarks                                      |
|----------|--------------------------|---------|---------------------------------|--------------|--------------|------------------------|--|
| 100-D    | 5006                     | 5006    | 2                               | 4            | Brown, Black | 72                     | For Nos. 97, 39, 78, 75 and 111 desk stands. |

### Extra Long 2 Conductor Cords

|       |      |      |   |   |              |     |                              |
|-------|------|------|---|---|--------------|-----|------------------------------|
| 516-D | 5006 | 5006 | 2 | 4 | Brown, Black | 120 | Same as 100-D except length. |
|-------|------|------|---|---|--------------|-----|------------------------------|

### 2 Conductor Desk Stand Cords

Miscellaneous

|       |       |       |   |   |              |    |
|-------|-------|-------|---|---|--------------|----|
| 511-D | Loops | 17132 | 2 | 4 | Brown, Black | 72 |
| 581-D | 33566 | 5006  | 2 | 4 | Brown, Black | 72 |

Actual Size Cord Tips specified with Cords on this page.



33566



5006



17132

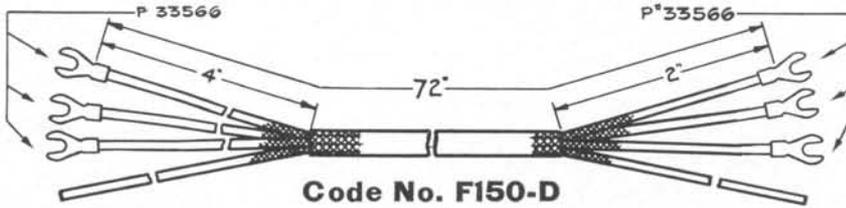


Loop

### CORDS—DESK STAND

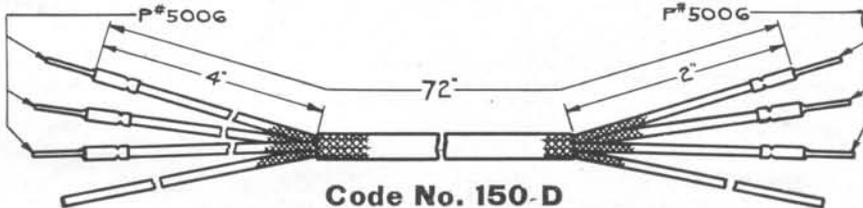
#### 3 Conductor—Brown Mercerized 18 Strand Tinsel

Green Silk Furnished When Specified.



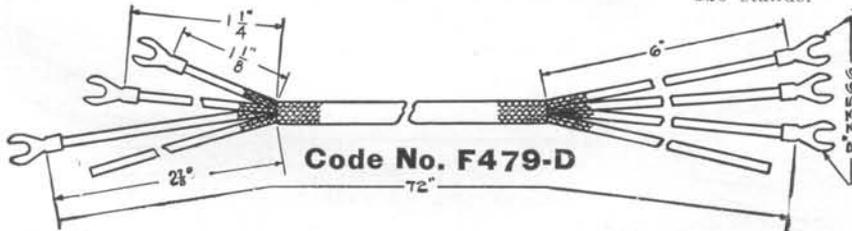
**Code No. F150-D**

| Code No. | Tips and Conns. |         | Length of Conds. |              | Tracer Colors        | Length Over All Inches | Remarks   |
|----------|-----------------|---------|------------------|--------------|----------------------|------------------------|---|
|          | Stand End       | Box End | Stand End, In.   | Box End, In. |                      |                        |   |
| F150-D   | 33566           | 33566   | 2                | 4            | Brown, Black, Orange | 72                     | For Nos. F84, F68, F82, F115, F110 and F120 stands. |
| F636-D   | 33566           | 33566   | 4                | 4            | Green, Red, Orange   | 72                     | For Nos. F118, F118-B, F115, F138, F301, F135.      |
| F452-D   | 33566           | 33566   | 2                | 2            | Brown, Red, Orange   | 72                     | For F-115-A stand.                                  |



**Code No. 150-D**

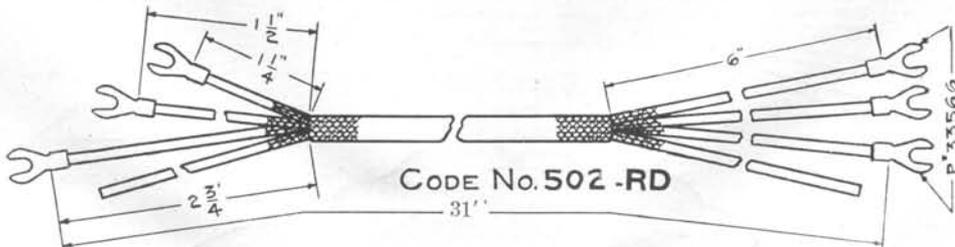
| Code No. | Tips and Conns. |         | Length of Conds. |              | Tracer Colors        | Length Over All Inches | Remarks                                       |
|----------|-----------------|---------|------------------|--------------|----------------------|------------------------|---|
|          | Stand End       | Box End | Stand End, In.   | Box End, In. |                      |                        |   |
| 150-D    | 5006            | 5006    | 2                | 4            | Brown, Black, Orange | 72                     | For Nos. 84, 68, 82, 115, 110 and 120 stands. |



**Code No. F479-D**

| Code No. | Tips and Conn. |         | Length of Conds.                 |              | Tracer Colors | Length Over all Inches | Remarks           |  |
|----------|----------------|---------|----------------------------------|--------------|---------------|------------------------|-------------------|--|
|          | Stand End      | Box End | Stand End, In.                   | Box End, In. |               |                        |                   |  |
| F479-D   | 33566          | 33566   | { Min. 1 1/8 }<br>{ Max. 2 3/8 } |              | 6             | Green, Red, Orange     | 72 550 W. E. Cord | W. E. desk stands, Nos. 1020AL, AP, BC, MC, MP and SC. W. E. arms, Nos. 1048AA, AB and AC. |

#### 3 Conductor—Black and Maroon Mercerized Cotton 18 Strands Tinsel

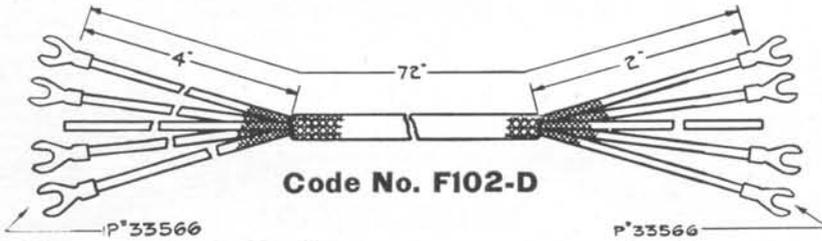


**Code No. 502-RD**

| Code No. | Tips and Conns. |         | Length of Conds.                 |              | Tracer Colors | Length Over all Inches | Remarks |                             |
|----------|-----------------|---------|----------------------------------|--------------|---------------|------------------------|---------|-----------------------------|
|          | Stand End       | Box End | Stand End, In.                   | Box End, In. |               |                        |         |                             |
| F502-RD  | 33566           | 33566   | { Min. 1 1/4 }<br>{ Max. 2 3/4 } |              | 6             | Green, Red, Orange     | 81      | Replaces W. E. Co. No. 409. |

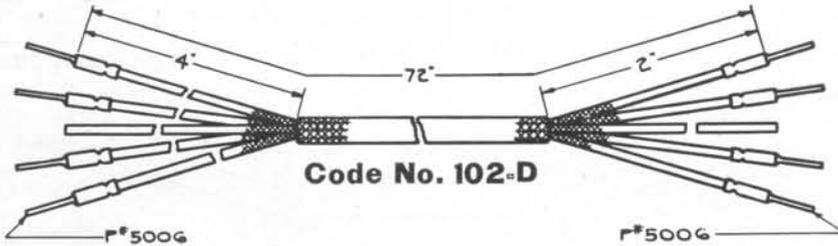
## CORDS—DESK STAND

### 4 Conductor—Brown Mercerized



**Code No. F102-D**

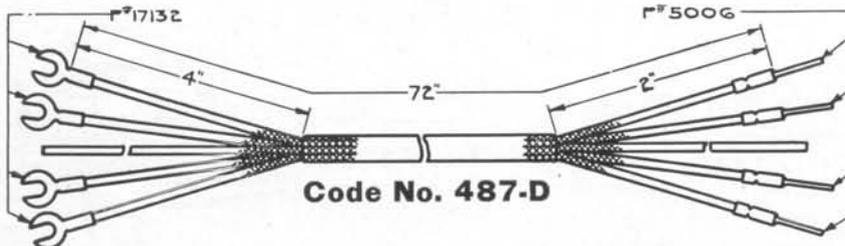
| Code No. | Tips and Conns. Stand End | Conns. Box End | Length of Conds. Stand End, In. Box End, In. |   | Tracer Colors             | Length Over all Inches | Remarks                                   |
|----------|---------------------------|----------------|--|---|---------------------------|------------------------|---|
| F102-D   | 33566                     | 33566          | 2  | 4 | Brown, Black, Red, Orange | 72                     | For stands and boxes with flat terminals. |



**Code No. 102-D**

|       |      |      |   |   |                           |    |                                   |
|-------|------|------|---|---|---------------------------|----|-----------------------------------|
| 102-D | 5006 | 5006 | 2 | 4 | Brown, Black, Red, Orange | 72 | For 4 conductor stands and boxes. |
|-------|------|------|---|---|---------------------------|----|-----------------------------------|

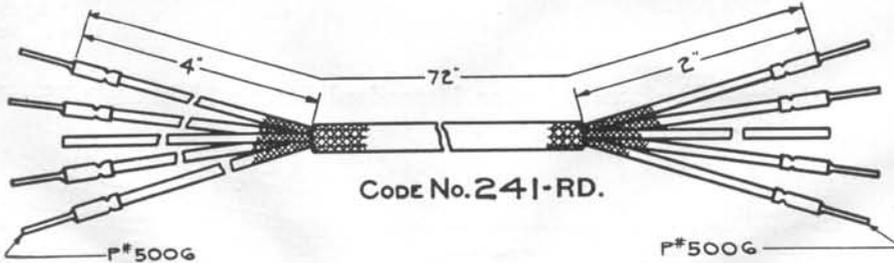
### 4 Conductor—Desk Stand Cords Miscellaneous Tips



**Code No. 487-D**

|       |      |       |   |   |                           |    |                        |
|-------|------|-------|---|---|---------------------------|----|------------------------|
| 487-D | 5006 | 17132 | 2 | 4 | Brown, Black, Red, Orange | 72 | For Monarch desk stand |
|-------|------|-------|---|---|---------------------------|----|------------------------|

### 4 Conductor—Black and Maroon 18 Strand Tinsel



**Code No. 241-RD.**

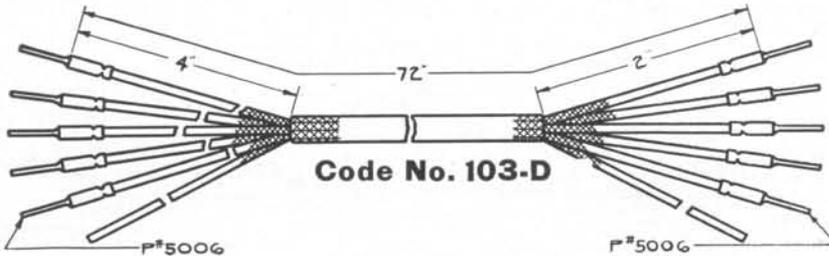
|        |       |      |   |   |                           |    |                               |
|--------|-------|------|---|---|---------------------------|----|-------------------------------|
| 241-RD | 5006  | 5006 | 2 | 4 | Green, Black, Red, Orange | 72 | For 4 cond. stands and boxes. |
| 566-RD | 33566 | 5006 | 3 | 6 | Green, Black, Red, Orange | 72 |                               |



### CORDS—DESK STAND

5 Conductor—Brown Mercerized

Green Silk furnished when specified.



| Code No. | Tips and Conns. |         | Length of Conds. |              | Tracer Colors                   | Length Over all Inches | Remarks                 |
|----------|-----------------|---------|------------------|--------------|---------------------------------|------------------------|-------------------------|
|          | Stand End       | Box End | Stand End, In.   | Box End, In. |                                 |                        |                         |
| 103-D    | 5006            | 5006    | 2                | 4            | Brown, Black, Red, Orange White | 72                     | For 5 conductor stands. |

6 Conductor—Brown Mercerized

|         |       |       |   |   |                                       |    |                   |
|---------|-------|-------|---|---|---------------------------------------|----|-------------------|
| F-104-D | 33566 | 33566 | 2 | 4 | Brown, Black, Red, Orange White, Blue | 72 | For No. 98 stand. |
|---------|-------|-------|---|---|---------------------------------------|----|-------------------|

7 Conductor—Brown Mercerized

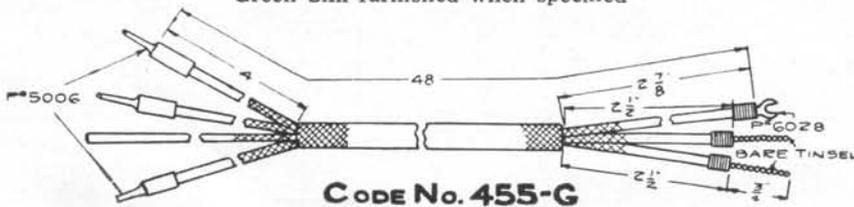
|         |       |       |   |   |   |    |  |
|---------|-------|-------|---|---|---|----|--|
| F-105-D | 33566 | 33566 | 2 | 4 | Black, Red, Orange, Brown, Blue, White, Green | 72 |  |
|---------|-------|-------|---|---|---|----|--|

### CORDS—GRABAPHONE

Kellogg Grabaphone Cords are of the same construction as our Desk Stand Cords.

3 Conductor—Brown Mercerized

Green Silk furnished when specified



| Code No. | Tips and Conns. |                  | Length of Conds.               | Tracer Colors        | Length Over all Inches | Remarks                         |
|----------|-----------------|------------------|--------------------------------|----------------------|------------------------|---------------------------------|
|          | Stand End       | Graba-phone End  |                                |                      |                        |                                 |
| 455-G    | 5006            | { 6028<br>Bare } | 4 { Min. 2 1/2<br>Max. 2 7/8 } | Green, Black, Orange | 48                     | For Nos. 13 and 14 Graba-phone. |

4 Conductor—Brown Mercerized

| Code No. | Tips and Conns. |                 | Length of Conds.       | Tracer Colors             | Length Over all Inches | Remarks                          |
|----------|-----------------|-----------------|------------------------|---------------------------|------------------------|----------------------------------|
|          | Stand End       | Graba-phone End |                        |                           |                        |                                  |
| 454-G    | 5006            | 33563           | 4 { Min. 3<br>Max. 7 } | Brown, Black, Red, Orange | 48                     | For Nos. 11 and 12 Graba-phones. |
| F454-G   | 33566           | 33563           | 4 { Min. 3<br>Max. 7 } | Black, Red, Orange        | 48                     |                                  |



5006



33566



6028



Bare



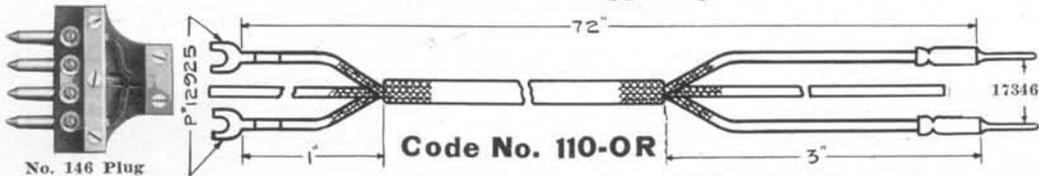
33563

## CORDS — OPERATORS'

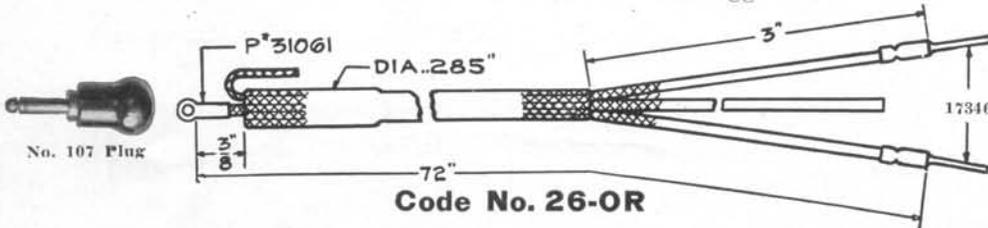
Kellogg Operator Cords speak for themselves in giving long uninterrupted service. The Operator Cords on Kellogg Switchboards are well proving their worth to thousands of users.

The Green Silk Operator Cords are made up of 18 strands of tinsel, twisted together in three ropes of 6 strands each, which are covered with one wrap of plain white cotton, impregnated with moisture-proof compound. Over this, is placed one braid of plain green cotton and it is then covered over all with a green silk braid.

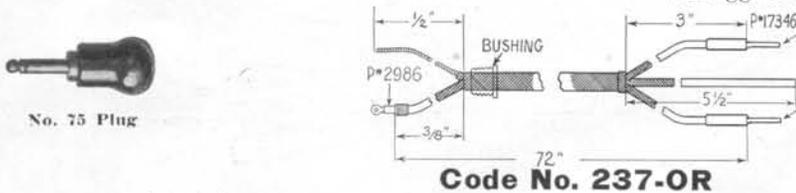
### CORDS — OPERATORS' To Fit Kellogg Plugs



| Code No. | Plug End | Tips and Conns. Receiver End | Plug End, In. | Length of Conds. Receiver End, In. | Length Over all Inches | Remarks  |
|----------|----------|------------------------------|---------------|------------------------------------|------------------------|--|
| 110-OR   | 12925    | 17346                        | 1             | 3                                  | 72                     | Stay cord on plug end fits Kellogg No. 146 plug. A. E. Co. No. 103 plug. Standard on Kellogg boards. |

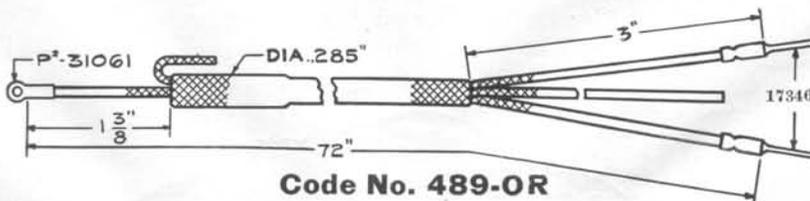


| Code No. | Plug End | Tips and Conns. Receiver End | Plug End | Length of Conds. Receiver End | Length Inches | Remarks   |
|----------|----------|------------------------------|----------|-------------------------------|---------------|---|
| 26-OR    | 31061    | 17346                        | 3/8      | 3                             | 72            | Fits 1/8 tap. Kellogg No. 107 plug. Also fits W. E. Co. No. 47 plug or Kellogg No. 130 switchboard plug. Formerly standard on Kellogg boards. |



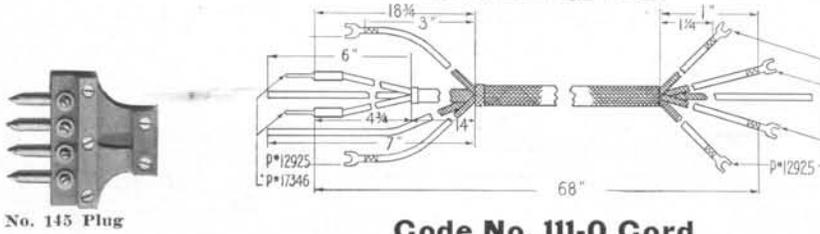
| Code No. | Plug End             | Tips and Conns. Receiver End | Plug End | Length of Conds. Receiver End | Length Inches | Remarks   |
|----------|----------------------|------------------------------|----------|-------------------------------|---------------|---|
| 237-OR   | { 2986 }<br>{ Bare } | 17346                        | 3/8      | 3                             | 72            | Fits tap No. 12-24. For No. 75 plug. Formerly standard on Kellogg boards. |

### CORDS—OPERATORS' Miscellaneous



| Code No. | Plug End              | Tips and Conns. Receiver End | Plug End | Length of Conds. Receiver End | Length Over all Inches | Remarks   |
|----------|-----------------------|------------------------------|----------|-------------------------------|------------------------|---|
| 489-OR   | { 31061 }<br>{ Bare } | 17346                        | 1 1/8    | 3                             | 72                     | Fits Dean head receiver and 2-conductor operator's plug. 1/8-in. tap. |

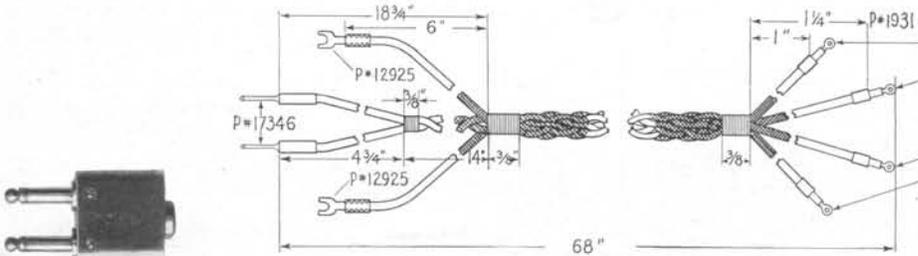
**CORDS—OPERATORS'**  
**4 Conductor—Green Silk Plaited No Overall Braid**  
 To Fit Kellogg Plugs



No. 145 Plug

**Code No. 111-0 Cord**

| Code No. | Tips and Conns. |                 |              | Length of Conds., Inches     |                 |              | Tracer Colors             | Length Over all Inches | Remarks  |
|----------|-----------------|-----------------|--------------|------------------------------|-----------------|--------------|---------------------------|------------------------|--|
|          | Plug End        | Transmitter End | Receiver End | Plug End                     | Transmitter End | Receiver End |                           |                        |  |
| 111-O    | 12925           | 12925           | 17346        | { Min. 1 }<br>{ Max. 1 1/4 } | 3               | 4 3/4        | Green, Black, Red, Orange | 68                     | For Nos. 131 and 145 plugs. Fits A. E. Co. plug No. 103. |

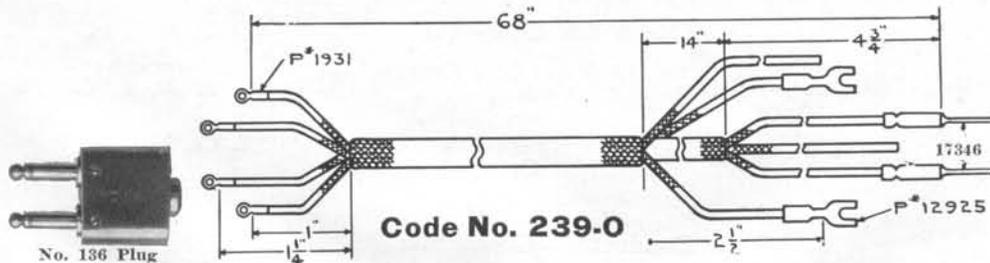


No. 25 Plug

**Code No. 433-0 Cord**

|       |      |       |       |                                |       |       |                           |    |                                  |
|-------|------|-------|-------|--------------------------------|-------|-------|---------------------------|----|----------------------------------|
| 433-O | 1931 | 12925 | 17346 | { Min. 1 }<br>{ Max. 1 1/4 }   | 2 1/2 | 4 3/4 | Green, Black, Red, Orange | 68 | Transmitter on tip. No. 25 plug. |
| 439-O | Loop | 12925 | 17346 | { Min. 1/2 }<br>{ Max. 1 3/4 } | 6     | 4 3/4 | Green, Black, Red, Orange | 68 | For No. 182 plug.                |

**4 Conductor—Green Silk with Braid Overall**  
 To Fit Kellogg Plugs



No. 136 Plug

**Code No. 239-0**

|       |      |       |       |                              |       |       |                           |    |   |
|-------|------|-------|-------|------------------------------|-------|-------|---------------------------|----|---|
| 239-O | 1931 | 12925 | 17346 | { Min. 1 }<br>{ Max. 1 1/4 } | 2 1/2 | 4 3/4 | Green, Black, Red, Orange | 68 | Fits bushing Pc No. 28818. 3/32 drill. Transmitter on tip. No. 136 plug.    |
| 240-O | 1931 | 12925 | 17346 | { Min. 1 }<br>{ Max. 1 1/4 } | 2 1/2 | 4 3/4 | Green, Black, Red, Orange | 68 | Fits bushing Pc No. 28818. 3/32 drill. Receiver on tip. No. 136 plug.       |
| 67-O  | 1931 | 12925 | 17346 | { Min. 1 }<br>{ Max. 1 1/4 } | 6     | 4 3/4 | Green, Black, Red, Orange | 68 | Transmitter on tip of plug. Same as No. 2390 but larger to fit No. 25 plug. |

Note—No. 25 and No. 136 plugs are the same except No. 136 has smaller cord bushing.

**CORD FOR DOUBLE HEAD RECEIVERS**

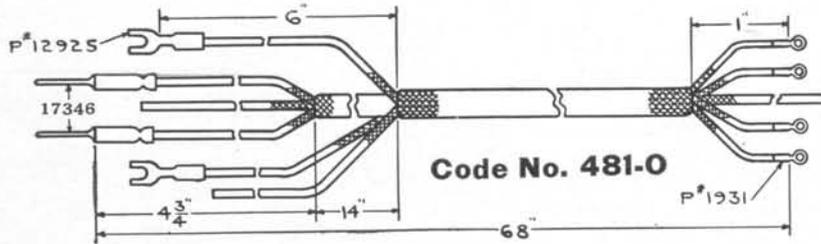
**4 Conductor—Green Silk Braid Overall**  
 Two Receivers in Multiple

|       |       |       |       |                              |   |       |  |    |                    |
|-------|-------|-------|-------|------------------------------|---|-------|--|----|--------------------|
| 442-O | 12925 | 12925 | 17346 | { Min. 1 }<br>{ Max. 1 1/4 } | 3 | 4 1/2 |  | 83 | Fits No. 145 plug. |
|-------|-------|-------|-------|------------------------------|---|-------|--|----|--------------------|

## CORDS — OPERATORS'

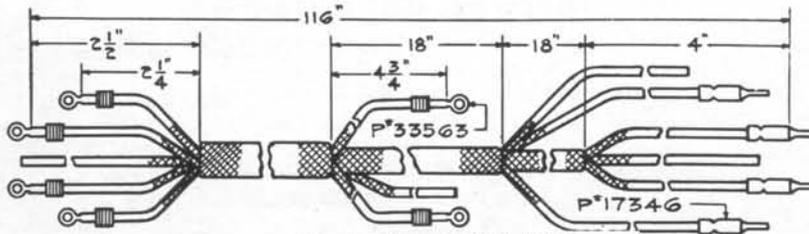
### 4 Conductor—Green Silk Braid Overall

To Fit Plugs of Other Makes



| Code No. | Tips and Conns. |                 |              | Length of Conds., Inches    |                 |              | Tracer Colors             | Length Over all Inches    | Remarks   |   |
|----------|-----------------|-----------------|--------------|-----------------------------|-----------------|--------------|---------------------------|---------------------------|---|---|
|          | Plug End        | Transmitter End | Receiver End | Plug End                    | Transmitter End | Receiver End |                           |                           |   |   |
| 481-O    | 1931            | 12925           | 17346        | 1                           | 6               | 4 3/4        | Green, Black, Red, Orange | 68                        | Fits Dean Operator Plug. Fits bushing Pc No. 28818. |   |
| 140-O    | 33563           | 33563           | 17346        | { Min. 2<br>{ Max. 2 7/16 } |                 | 4            | 3 3/4                     | Green, Black, Red, Orange | 96  | W. E. Co. breast plate transmitter, W. E. Co. plug No. 103. |
| 464-O    | 33563           | 12925           | 17346        | { Min. 2<br>{ Max. 2 7/16 } |                 | 2 1/2        | 4 3/4                     | Green, Black, Red, Orange | 68  | Fits No. 139 plug and W. E. Co. 103 plug.                   |

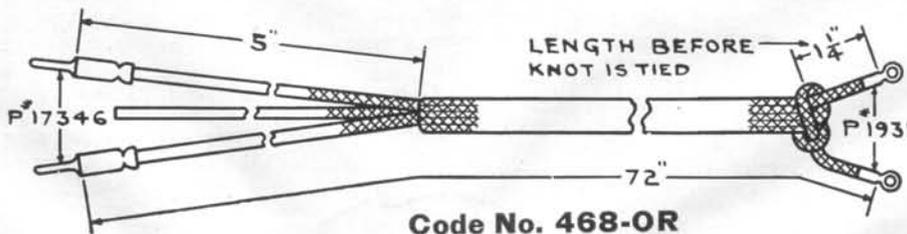
### 4 Conductor—Black and Maroon



#### Code No. 503-RO

|        |       |       |       |       |       |   |                                 |     |   |
|--------|-------|-------|-------|-------|-------|---|---------------------------------|-----|---|
| 503-RO | 33563 | 33564 | 17346 | 2 1/2 | 5     | 4 | Red, Blue, Orange, Green, White | 116 | For double receiver duplicate of W. E. Co. No. 363. |
| 504-RO | 33563 | 33563 | 33563 | 2 1/2 | 4 1/2 | 4 | Green, Blue, Red, Orange        | 98  | W. E. Co. No. 375.                                  |

### 2 Conductor—Green Silk



#### Code No. 468-OR

| Code No. | Tips and Conns. |              | Length of Conds. |                   | Tracer Colors | Length Over all Inches | Remarks   |
|----------|-----------------|--------------|------------------|-------------------|---------------|------------------------|---|
|          | Plug End        | Receiver End | Plug End, In.    | Receiver End, In. |               |                        |   |
| 468-OR   | 1931            | 17346        | 7/16             | 5                 | Green, Black  | 72                     | Replaces W. E. No. 30. Fits W. E. plugs, Nos. 85, 47 and 110. |

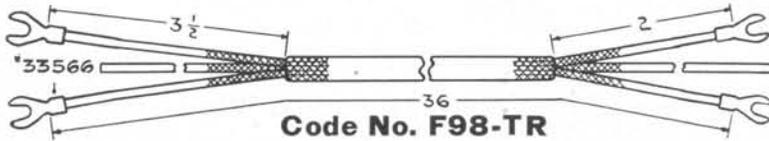
## CORDS — RECEIVER

Kellogg Receiver Cords are of the same sturdy construction as our Desk Stand Cords.

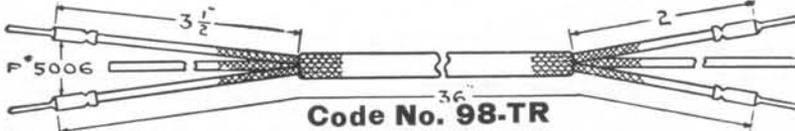
The Brown Mercerized Receiver Cord is made up of conductors of eighteen strands of tinsel twisted together in 3 ropes each of 6 strands of tinsel, over which is placed two wrappings of silk impregnated with moisture-proof compound. This is covered with a braid of plain brown cotton and a brown mercerized over-all braid.

The green silk deskstand cords are of the same construction as the brown mercerized, except that the cotton braid is green and the outer covering is of green silk.

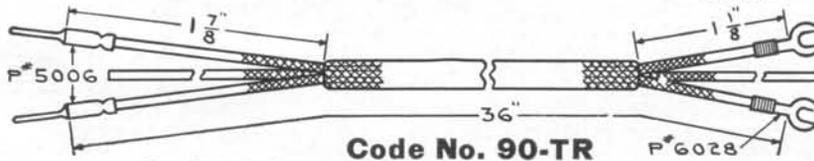
### 2 Conductor—Brown Mercerized Green Silk Furnished When Specified.



| Code No. | Tip and Conns. Receiver End | Stand End | Length of Conds. Receiver End, In. | Stand End, In. | Tracer Colors | Length Over all Inches | Remarks   |
|----------|-----------------------------|-----------|------------------------------------|----------------|---------------|------------------------|---|
| F98-TR   | 33566                       | 33566     | 3 1/2                              | 2              | Brown, Black  | 36                     | For all receivers with flat terminals. For Kellogg No. F41A receiver. |

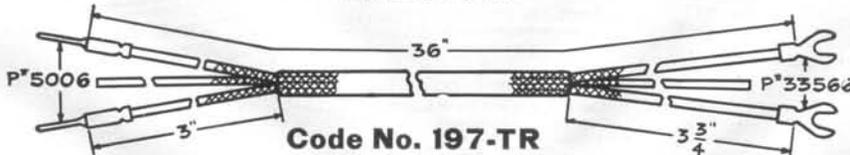


| Code No. | Tip and Conns. Receiver End | Stand End | Length of Conds. Receiver End, In. | Stand End, In. | Tracer Colors | Length Over all Inches | Remarks   |
|----------|-----------------------------|-----------|------------------------------------|----------------|---------------|------------------------|---|
| 98-TR    | 5006                        | 5006      | 3 1/2                              | 2              | Brown, Black  | 36                     | For all receivers with solid terminals. Kellogg receivers Nos. 17, 18, 23, 26, 27, 32, 41A. |
| 508-TR   | 5006                        | 5006      | 3 1/2                              | 2              | Brown, Black  | 30                     | Same as 98-TR but shorter.  |
| 27-TR    | 5006                        | Bare      | 4 1/2                              | 1 1/4          | Brown, Black  | 36                     | For old style receivers Nos. 6, 8, 12.  |
| 196-TR   | 5006                        | Loops     | 3                                  | 3 3/8          | Green, Black  | 36                     | Nos. 197-B and F-197-B desk stands.   |



| Code No. | Tip and Conns. Receiver End | Stand End | Length of Conds. Receiver End, In. | Stand End, In. | Tracer Colors | Length Over all Inches | Remarks      |
|----------|-----------------------------|-----------|------------------------------------|----------------|---------------|------------------------|--------------|
| 90-TR    | 5006                        | 33563     | 1 7/8                              | 1 1/8          | Brown, Black  | 36                     | Flexiphones. |

### 2 Conductor—Brown Mercerized Miscellaneous



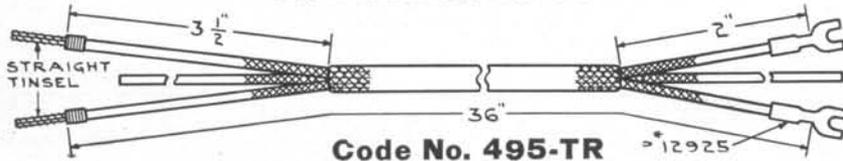
| Code No. | Tip and Conns. Receiver End | Stand End | Length of Conds. Receiver End, In. | Stand End, In. | Tracer Colors | Length Over all Inches | Remarks |
|----------|-----------------------------|-----------|------------------------------------|----------------|---------------|------------------------|---------|
| 197-TR   | 5006                        | 33566     | 3                                  | 3 3/4          | Brown, Black  | 36                     |         |



Cord Tips Listed on this page.

### CORDS—RECEIVER

**2 Conductor Brown Mercerized.**  
For Miscellaneous Receivers

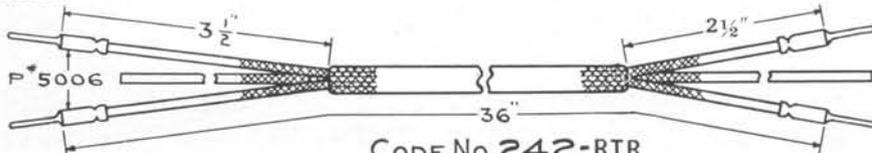


**Code No. 495-TR** P\*12925

| Code No. | Tips and Conns. Receiver End | Stand End | Length of Conds. Receiver End, In. | Stand End, In.                   | Tracer Colors | Length Inches | Remarks                   |
|----------|------------------------------|-----------|------------------------------------|----------------------------------|---------------|---------------|---------------------------|
| 495-TR   | 12925                        | Bare      | 3 1/2                              | 2                                | Brown, Black  | 36            |                           |
| 179-TR   | 5006                         | 6028      | 3                                  | { Min. 1 1/4 }<br>{ Max. 2 3/4 } | Brown, Red    | 36            | W. E. Co.'s Code No. 178. |
| 207-TR   | 5066                         | 17132     | 3 1/2                              | { Min. 1 1/8 }<br>{ Max. 2 3/4 } | Brown, Black  | 36            | W. E. Code No. 176.       |

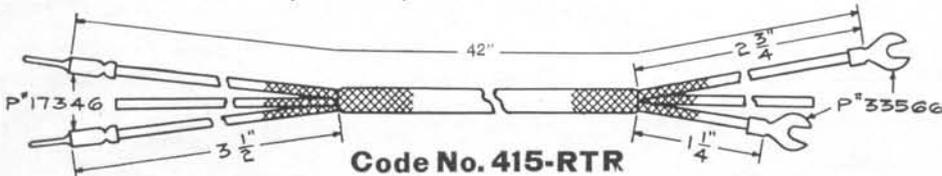
**2 Conductor Black and Maroon**  
18 Strand Tinsel

The black and maroon cords are made up of 18 strands tinsel twisted together in three ropes of six strands each. Two inner braids impregnated with moisture-proof compound and one outer braid of mercerized cotton.



**Code No. 242-RTR**

| Code No. | Tips and Conns. Receiver End | Stand End | Length of Conns. Receiver End, In. | Stand End, In.               | Tracer Colors | Length Inches | Remarks              |
|----------|------------------------------|-----------|------------------------------------|------------------------------|---------------|---------------|----------------------|
| 242-RTR  | 5006                         | 5006      | 3 1/2                              | 2 1/2                        | Black, Red    | 36            |                      |
| 248-RTR  | 39663                        | 17132     | 3 1/2                              | { Min. 1 1/2 }<br>{ Max. 2 } | Black, Red    | 36            | No. 9 blocking cord. |

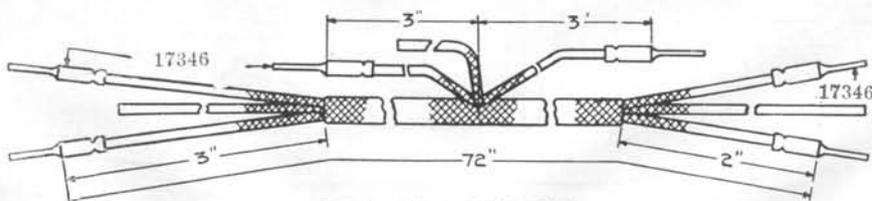


**Code No. 415-RTR**

| Code No. | Tips and Conns. Receiver End | Stand End | Length of Conds. Receiver End, In. | Stand End, In.                   | Tracer Colors | Length Inches | Remarks                          |
|----------|------------------------------|-----------|------------------------------------|----------------------------------|---------------|---------------|----------------------------------|
| 415-RTR  | 17346                        | 33566     | 3 1/2                              | { Min. 1 1/4 }<br>{ Max. 2 3/4 } | Green, White  | 42            | W. E. Code No. 408               |
| 427-RTR  | 17346                        | 33566     | 3 1/2                              | 5                                | Green, White  | 30            | W. E. Co. Code Nos. 446 and 546. |

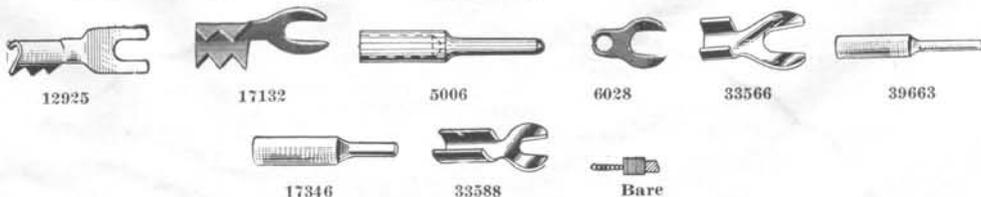
### CORDS FOR DOUBLE HEAD RECEIVERS

**2 Conductor—Green Silk**



**Code No. 162-OR**

| Code No. | Tips and Conns. Plug End | Receiver End | Length of Conds. Plug End, In. | Receiver End, In. | Length Over all Inches | Remarks                      |
|----------|--------------------------|--------------|--------------------------------|-------------------|------------------------|------------------------------|
| 162-OR   | 17346                    | 17346        | 2                              | 3                 | 72                     | For two receivers in series. |



## CORDS—SWITCHBOARD

Kellogg switchboard cords solve the problem of reducing the high cost of switchboard cordage.

Kellogg steel and tinsel switchboard cords consist of two spiral steel conductors wrapped over braided tinsel, making a practically perfect cord. The round steel conductors are practically unbreakable giving the cord a wonderfully long life, while the tinsel lowers the resistance of the steel conductors, making a most satisfactory cord from a transmission standpoint.

Kellogg all tinsel cords are constructed of 18 strands of tinsel insulated with two wrappings of moisture-proofed silk. Tinsel cords are especially recommended for common battery switchboards where extreme flexibility is important.

Repeated testimonials from users all over the world prove the quality of Kellogg cords unequalled.

Kellogg switchboard cords are furnished in 36 to 96 inch lengths.

### 1 Conductor—Steel and Tinsel Conductors

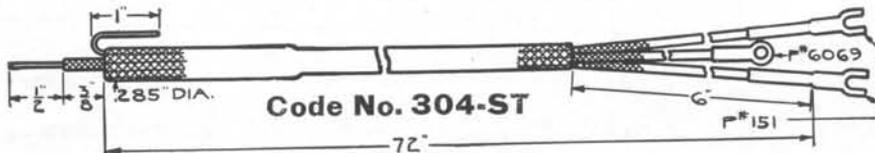
| Code No. | Tips and Conns. Plug End Swbd. End | Length Plug End, In. | Diam. at Plug End, In. | Tracer Colors | Fits Tap Inches | Remarks                               |
|----------|------------------------------------|----------------------|------------------------|---------------|-----------------|---------------------------------------|
| 310-ST   | ..... 151                          | 1/2                  | .285-.295              | White         | 5/16-18         | Fits No. 44 plug.                     |
| 311-ST   | .....                              | 1/2                  | .285-.295              | White         | 5/16-18         | Arranged for No. 44 plug at each end. |

### 1 Conductor—Tinsel Conductors

| Code No. | Tips and Conns. Plug End Swbd. End | Length Plug End, In. | Diam. at Plug End, In. | Tracer Colors | Fits Tap Inches | Remarks                        |
|----------|------------------------------------|----------------------|------------------------|---------------|-----------------|--------------------------------|
| 313-TO   | 31061 151                          | 5/8                  | .285-.295              | White         | 5/16-18         | Fits No. 44 plug.              |
| 318-TO   | 31061 .....                        | 1 1/4                | .285-.295              | White         | 5/16-18         | Arranged for plug at each end. |

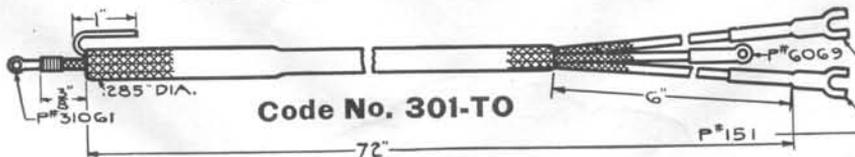
### 2 Conductor—Steel and Tinsel Conductors

Standard Lengths—36", 48", 60", 72".



| Code No. | Tips and Conns. Plug End Swbd. End | Length Plug End, In. | Diam. at Plug End, In. | Tracer Colors | Fits Tap Inches | Remarks  |
|----------|------------------------------------|----------------------|------------------------|---------------|-----------------|--|
| 304-ST   | ..... 151                          | 5/8                  | .292-.312              | White, Blue   | .....           | Fits Nos. 42, 112, 55, 187, 162, 138, 168, 17, 70, 15, 56, 130, 109, 3, 29, 102, 166, 78, 90, 193, 178, and Amer. Elec. No. 1188 plug. |
| 323-ST   | ..... 151                          | 5/8                  | .245-.265              | White, Blue   | 1/4-32          | Fits Nos. 128, 151, 192, 181 and 141 plugs.  |
| 305-ST   | ..... 2749                         | 5/8                  | .196-.216              | White, Blue   | 12-24           | Fits Nos. 26 and 122 plugs. Also S. C. No. 33.   |
| 331-ST   | ..... 151                          | 1 1/8                | .292-.312              | White, Blue   | 5/16-18         | Fits 144 plugs and S. C. Nos. 15 and 42.   |
| 357-ST   | ..... 34603                        | 7/8                  | .196-.216              | White, Blue   | 12-24           | Fits No. 36 S. C. plug.  |
| 350-ST   | ..... 151                          | 1                    | .235-.245              | White, Blue   | .....           | Fits S. C. No. 43 plug.  |
| 360-ST   | ..... 151                          | 1/2                  | .261-.281              | White, Blue   | .....           | Fits Nos. 78 and 128 plugs.  |
| 308-ST   | .....                              | 5/8                  | .292-.312              | White, Blue   | 5/16-18         | Arranged for plug at each end. Tied in middle.   |
| 353-ST   | ..... 33599                        | 5/8                  | .292-.312              | White, Blue   | 5/16-18         | Fits W. E. Co. No. 47 plug.  |

### Two Conductor—Tinsel Conductors

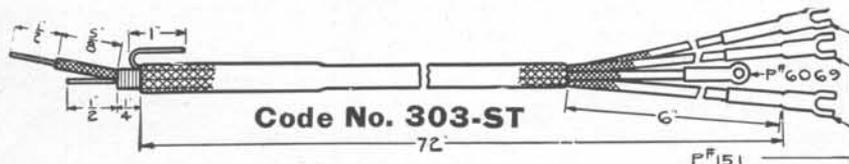


| Code No. | Tips and Conns. Plug End Swbd. End | Length Plug End, In. | Diam. at Plug End, In. | Tracer Colors | Fits Tap Inches | Remarks                               |
|----------|------------------------------------|----------------------|------------------------|---------------|-----------------|---------------------------------------|
| 301-TO   | 31061 151                          | 3/4                  | .292-.312              | White, Blue   | 5/16-18         | Fits Nos. 3, 15, 17, 42 and 70 plugs. |
| 324-TO   | 31061 151                          | 3/4                  | .245-.265              | White, Blue   | 1/4-32          | Fits No. 128 plug.                    |

## CORDS—SWITCHBOARD

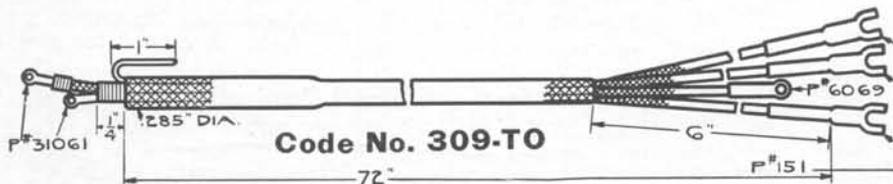
### 3 Conductor—Steel and Tinsel Conductors

Standard Lengths—36", 48", 72", 84".



| Code No. | Tips and Conns. Plug End Swbd. End | Length Plug End, In. | Diam. at Plug End | Tracer Colors | Fits Tap Inches  | Remarks  |
|----------|------------------------------------|----------------------|-------------------|---------------|------------------|--|
| 303-ST   | .....                              | 151                  | 1/2-1             | .292-.312     | White, Blue, Red | 5/8-18 Fits Nos. 106, 74, 137, 152, 34, 108, 111, 156, 29, 191, 115, 116, 118, 194, 18, 38, 165 plugs. |
| 358-ST   | .....                              | 33569                | 1/2-7/8           | .292-.312     | White, Blue, Red | ..... Fits W. E. No. 110 plug.   |
| 325-ST   | .....                              | 151                  | 1/2-1             | .245-.265     | White, Blue, Red | 3/4-32 Fits Nos. 129, 143, 154, 188, 164, 176 and 177 plugs.   |

### 3 Conductor—Tinsel Conductors

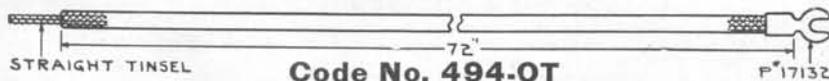


| Code No. | Tips and Conns. Plug End Swbd. End | Length Plug End, In. | Diam. at Plug End | Tracer Colors | Remarks  |
|----------|------------------------------------|----------------------|-------------------|---------------|--|
| 309-TO   | 31061                              | 151                  | 3/4-1 1/4         | .285-.295     | White, Blue, Red Fits same plugs as No. 303 cord.  |
| 326-TO   | 31061                              | 151                  | 3/4-1 1/4         | .235-.245     | White, Blue, Red Fits Nos. 154, 201 and 129 plugs. |

## CORDS—SWITCHBOARD TRANSMITTER

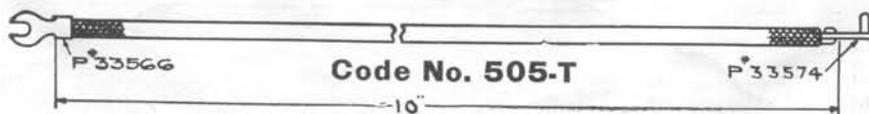
The conductors of Kellogg green silk transmitter cords are made up of 18 strands of tinsel twisted together in 3 ropes of 6 strands each. The conductors are then covered with two wraps of silk impregnated with a moisture-proof compound over which is placed a green cotton braid, then covered over all with a green silk braid.

### 1 Conductor—Green Silk



| Code No. | Tip and Conns. Transmitter End Conn. Rack End | Tracer Colors | Length Over all Inches | Remarks  |
|----------|---|---------------|------------------------|--|
| 494-OT   | Bare  | 17132         | Green                  | 72 No stay cord.   |
| 499-OT   | Bare  | 5006          | Green                  | 72 No stay cord.   |
| 261-OT   | 5006  | 5006          | Green                  | 72 Standard Kellogg cord used on suspended type switchboard. |
| 465-OT   | 5006  | 17132         | Green                  | 72 No stay cord. W. E. Co. No. 437.                          |
| 485-OT   | 31070   | 31070         | Green                  | 72 Loop tied at one end.                                     |

## CORDS—MISCELLANEOUS



|       |       |       |       |    |                              |
|-------|-------|-------|-------|----|------------------------------|
| 505-T | 33574 | 33566 | Green | 10 | Used on W. E. Co. apparatus. |
|-------|-------|-------|-------|----|------------------------------|



No. 4

## FASTENERS—CORD

- No. 4. Cord Fasteners. Brass, dull nickeled.  
 No. 5. Cord Fasteners. Steel, hot tin plated.



No. 5

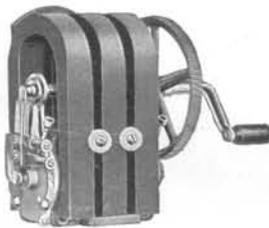
## GENERATORS

The secret of the Kellogg generator's extraordinary strength lies not only in its permanent magnet, but in the superior design of its revolving electro-magneto or armature, upon which the wire is wound. It is just as important that this revolving magnet be massive in size as it is to have a large and powerful magnet, for it is absolutely useless to have the permanent magnet furnish more magnetism than the electro-magnet has capacity to use. Most important of all, however, is the necessity for a liberal amount of winding space to accommodate a large coil of magnet wire in which the ringing circuit is generated.

The Kellogg Armature is of the shaftless type, which permits the use of the correct amount of iron and wire to secure the most powerful results.

Repeated laboratory and exchange tests of the most severe character prove time and again the uniformly superior service of Kellogg generators.

The Kellogg Company overcomes all danger from rust and from short circuits caused by small pieces of loose nickel scale by giving their generator magnets a heavy coating of special blue paint. The gear, pinion, field and screws are all nickel plated, dull finish.



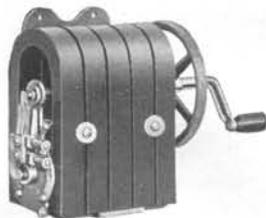
Code No. 15 Generator

### Telephone Type

| Code No. | Bars | Description               | Term. | Contacts        |
|----------|------|---------------------------|-------|-----------------|
| 15       | 3    | Alternating current       | 3     | Make and break. |
| 22       | 4    | Alternating current       | 3     | Make and break. |
| 53       | 5    | Alternating current       | 3     | Make and break. |
| 66       | 3    | Pulsating current         | 3     | Make and break. |
| 26       | 4    | Pulsating and alternating | 6     | Make and break. |
| 31       | 3    | Pulsating and alternating | 5     | Make and break. |
| 59       | 5    | Pulsating and alternating | 5     | Make and break. |
| 75       | 6    | Alternating               | 3     | Make and break. |



Alternating Current Generator Terminals



Code No. 53 Generator

### Switchboard Type

|    |   |                                   |   |                                 |
|----|---|-----------------------------------|---|---------------------------------|
| 64 | 3 | Alternating, Inverted gear wheels | 2 | No contacts.                    |
| 61 | 4 | Alternating, Inverted gear wheels | 2 | No contacts.                    |
| 63 | 5 | Alternating, Inverted gear wheels | 2 | No contacts.                    |
| 72 | 5 | Alternating                       | 2 | No contacts.                    |
| 78 | 5 | Alternating                       | 2 | No contacts with Mtg. Brackets. |



Pulsating & Alternating Current Generator Terminals

### Generator Parts

We furnish the following Generator Parts: Armatures for all 3-bar generators; armatures for all 4-bar generators; armatures for all 5-bar generators; large gear wheels for all generators; small gear wheels for all generators; right or left end bearing plate for generators; complete shunt spring assemblies for all generators.



No. 63

In ordering parts give code number of generator or code number of telephone with which parts are to be used.

## HEAT COILS



No. 2

Kellogg Heat Coils are carefully made and will blow at the amperage specified. Only fuse wire of the highest grade is used.



No. 6

| Code No. | Resistance | Remarks   | Used on             |
|----------|------------|---|---------------------|
| 2        | 3.45-3.70  | { Will not blow on .4-amp. for 5-min.<br>{ Will not blow on .5-amp. for 2-min.                | } No. 16 Arresters. |
| 6        | 3.5        | { Will not blow on .35-amp. indefinitely.<br>{ Will blow on .5-amp. in less than 210 seconds. |                     |

See page No. 503 for Heat Coil Pliers

## HOOKS—CORD Individual Type



No. 1  
Cord Hook

No. 1—Brass Cord Hook. Made from No. 11 B. & S. gauge brass. One bend to hold cord threaded one end.

No. 2—Brass Cord Hook. Same as No. 1, but bent to form loop to prevent cord from slipping off.



No. 2  
Cord Hook

## Strip Type



No. 3B



No. 3A

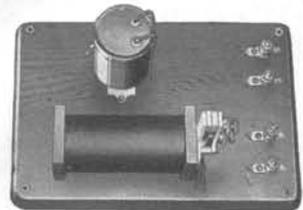
## No. 3 Type Cord Hook

| Code No. | No. of Hooks | Hook Centers | Dimensions    | Material               |
|----------|--------------|--------------|---------------|------------------------|
| 3        | 20           | 1 "          | 21 x 3/4"     | Aero metal, 1/8" thick |
| 3A       | 21           | 1 1/4"       | 26 1/4 x 3/4" | Aero metal, 1/8" thick |
| 3B       | 34           | 7/8"         | 19 7/8 x 3/4" | Aero metal, 1/8" thick |

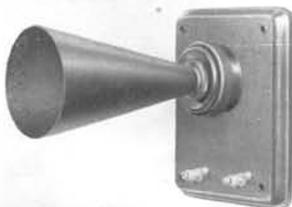
## HOWLERS

Kellogg howlers are made in two types. The No. 4 is for railway dispatching service and industrial signals. The No. 2 is for exchange purposes to signal subscribers who have left the receivers off the hook by howling the receiver.

No. 2—Howler consists of one No. 35A Ind. Coil and one No. 24 Condenser, mounted on 9 1/8 x 10 3/8" wood base. Wired to four binding posts.



No. 2 Howler



No. 4 Howler

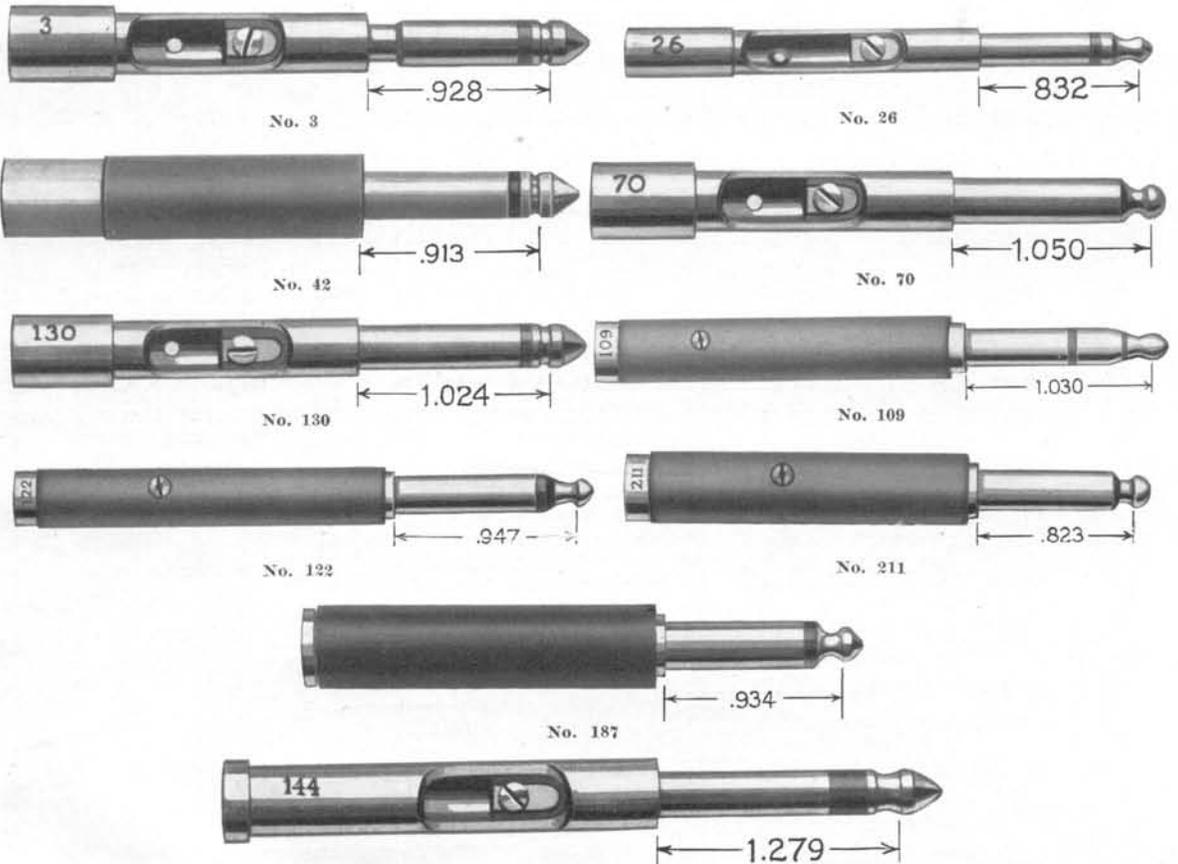
No. 4—1000 ohm Howler with special black enameled receiver. Mounted on an oak base 5x6". Black enamel horn 5 1/2" long, and 3" in diameter. Wired to two binding posts on base. Used as a signal on high frequency current in connection with composite telephones.

## PLUGS—SWITCHBOARD

Kellogg switchboard plugs are made to give maximum service. The heavy brass tips are made so as to resist wear. The hard rubber insulation will not break down, even after years of severe usage. No weak parts—eliminating plug breakages. Every part carefully made and of the proper size. Connections protected by fibre sleeve held securely in place.

Whit, abbreviation for Whitworth tap having rounded top threads which prevent cutting cords.

### Two Conductor



| Code No. | Diam of Metal Sleeve | Shape of Tip | Tap for Cord            | Fits Jacks Nos.  | Fits Cords Nos. Steel | Tinsel | Remarks   |
|----------|----------------------|--------------|-------------------------|--|-----------------------|--------|---|
| 3        | .2495                | Conical      | $\frac{7}{8}$ -18 whit. | 3-6-25-61-207-237-277-301-302-315-316-319-215-225-227-233 and 100-101-102-103-105-113-112-118-30-comb. D&J.                  | 304                   | 301    | Magneto switchboards. Sleeve conductor turned down. |
| 26       | .1775                | Round        | 12-24 whit.             | 55-88-89   | 305                   | .....  | Insulated metal ring.                               |
| 29       | .2495                | Conical      | $\frac{7}{8}$ -18 whit. | For worn jacks   | 304                   | 301    | 2 springs in sleeve.                                |
| 42       | .2495                | Conical      | $\frac{7}{8}$ -18 whit. | same jacks as No. 3 plug.  | 304                   | 301    | Same as No. 3 but full sleeve.                      |
| 44       | .2495                | Round        | $\frac{7}{8}$ -18 whit. | 69-134-141-146-147-148-149-152-159-191-204-205-211-218-223-230-231-232-244-250-251-252-266-322-53-209-94-100-229-332-298-299 | 310                   | 313    | Test plug.  |



## PLUGS — SWITCHBOARD

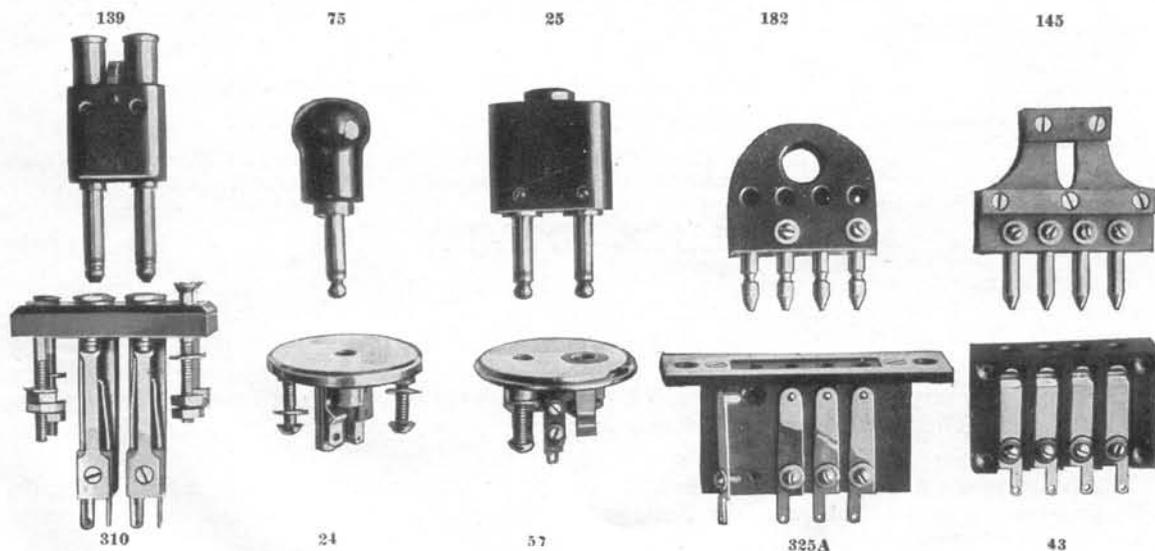
### Three Conductor

| Code No. | Diam. of Metal Sleeve | Shape of Tip | Tap for Cord             | Fits Jacks Nos.                               | Fits Cords Nos. Steel and Tinsel | Tinsel | Remarks  |
|----------|-----------------------|--------------|--------------------------|---|----------------------------------|--------|--|
| 175      | .261                  | Round        | $\frac{3}{32}$ -30       | Sterling Elec. Co. jacks                      |                                  |        | Replaces No. 31 Sterling plug for reamed out jacks |
| 176      | .2175                 | Conical      | $\frac{1}{4}$ -32        | Garford jacks                                 |                                  | 349    | Replaces Garford plugs                             |
| 177      | .2175                 | Conical      | $\frac{1}{4}$ -32        | Garford jacks                                 |                                  | 439    | No. 176 but extra insulator and dead metal ring    |
| 185      | .210                  | Round        | $\frac{3}{32}$ -24 whit. | W. E. Co. jacks                               |                                  | 368    | Replaces W. E. Co. No. 109 plug                    |
| 191      | .2495                 | Round        | $\frac{1}{8}$ -18 whit.  | W. E. Co. jacks                               |                                  | 358    | Replaces W. E. Co. No. 110 plug                    |
| 194      | .2495                 | Round        | $\frac{1}{8}$ -18 whit.  | Same jacks as No. 44 plug                     |                                  | 303    | } Garford jacks 339 replaces Garford plug.         |
| 199      | .220                  | Conical      | $\frac{1}{4}$ -32        |   |                                  | 309    |  |
| 201      | .2215                 | Conical      | $\frac{1}{4}$ -32        | } 239-253-257-274-288-295-254-292-293-313-314 |                                  | 325    | 326  |
| 202      | .248                  | Round        | $\frac{1}{8}$ -18 whit.  |   | Sterling Elec. Co. jacks         |        |  |

### PLUGS — OPERATORS

The construction of the No. 25, 107 and 139 types is substantially the same as the regular switchboard plug except that they are mounted in hard rubber covers.

The No. 131, 145 and 146 types are of the same construction both as to design and material. The prongs are mounted in a hard fibre strip which is provided with terminal screws, conductor separators and an adjustable strip to grip the cord and prevent any strain on the terminal connections.



### One Prong—Two Conductor

| Code No. | Diam. of Metal Sleeve | Shape of Tip | Tap for Cord             | Fits Jacks Nos. | Fits Cords Nos. | Remarks                              |
|----------|-----------------------|--------------|--------------------------|-----------------|-----------------|--------------------------------------|
| 75       | .2495                 | Round        | 12-24                    | 24-97-228       | 237             |                                      |
| 107      | .2495                 | Round        | $\frac{1}{8}$ "-18 whit. | 24-97-228       | 260-T           | No. 75 but cord bushing              |
| 148      | .2495                 | Round        | 12-24                    | 24-97-228       | 237             | Two one cond. plugs under one cover. |

### Two Prong—Two Conductor

| Code No. | Diam. of Metal Sleeve | Shape of Tip | Tap for Cord              | Fits Jacks Nos.                         | Fits Cord No. | Remarks                           |
|----------|-----------------------|--------------|---------------------------|---|---------------|-----------------------------------|
| 16       | .2495                 | Round        | $\frac{3}{32}$ "-24 whit. | 34 spring jacks in pairs for Test Panel | 307-ST        | Two 1 cond. plugs under one cover |

## PLUGS — OPERATORS

### Two Prong—Four Conductor

| Code No. | Diameter of Metal Sleeve | Shape of Tip | Tap for Cord                | Fits Jacks Nos. | Fits Cord No.       | Remarks                           |
|----------|--------------------------|--------------|-----------------------------|-----------------|---------------------|-----------------------------------|
| 25       | .2495                    | Round        | $\frac{5}{16}$ " Not Tapped | 57-224-276      | 67-0                | Two 2 cond. plugs under one cover |
| 136      | .2495                    | Round        | $\frac{9}{32}$ " Not Tapped | 57-224-276      | 239-0               | No. 25 but cord bushing           |
| 139      | .2495                    | Conical      | 12-24                       | 310             | 463-0, 440-0, 464-0 | Two 2 cond. plugs under one cover |

### Two Prong—Six Conductor

|    |       |         |                           |  |       |                                   |
|----|-------|---------|---------------------------|--|-------|-----------------------------------|
| 81 | .2495 | Conical | $\frac{5}{16}$ "-18 whit. | 34 spring jack in pairs for Test Panel | 316-T | Two 3 cond. plugs under one cover |
|----|-------|---------|---------------------------|--|-------|-----------------------------------|

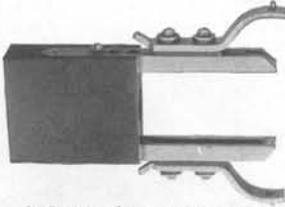
### Four Prong—Four Conductor

|     |      |         |                                |              |        |                              |
|-----|------|---------|--------------------------------|--------------|--------|------------------------------|
| 145 | .210 | Conical | $\frac{1}{4}$ " Not Tapped     | 43           | 111-O  | Used with breast plate sets. |
| 146 | .210 | Conical | Half hole $\frac{1}{4}$ " dia. | 43           | 110-OR |                              |
| 182 | .218 | Conical | $\frac{1}{4}$ " Not Tapped     | 325 and 325A | 439-O  |                              |

### Five Prong—Five Conductor

|     |      |         |                            |     |                 |  |
|-----|------|---------|----------------------------|-----|-----------------|--|
| 131 | .210 | Conical | $\frac{1}{4}$ " Not Tapped | 291 | 110-OR or 111-O | For boards with both suspended and breast plate type trans., 111-0 cord for breast plate type and 110-0R for suspended type. |
|-----|------|---------|----------------------------|-----|-----------------|--|

## PLUGS — TEST



Code No. 23—Testing Plug

- No. 21. Test Plug for American Arresters. Total Length  $1\frac{11}{16}$ ".
- No. 23. Four Conductor Test Plug for No. 1 Kellogg Arrester.
- No. 190. Test Plug for No. 16 Kellogg Arresters.
- No. 30. Single Prong Test Plug. Length  $1\frac{11}{16}$ ".
- No. 41. Double Prong Test Plug for American Electric Fuse Co.'s combined cross connecting rack and fuse board.

## PLUGS—DUMMY

Kellogg dummy plugs are carefully made of select high grade stock. The finish retains its fine appearance practically the entire life of the plug. Whether the plug is to designate party lines, change of number, take outs, or to cover blank spaces resulting from the removal of apparatus, it is made to give maximum service.

The wood dummy plugs are constructed of well seasoned birch and maple, turned down to exact size. The enamel is sprayed on, resulting in an even coat and presenting a fine glossy appearance.

The brass plugs are accurately made and equipped with non-exploding celluloid heads. The non-exploding celluloid used in Kellogg dummy plugs will not explode when exposed to excessive heat or sparks.

The accompanying table gives the code numbers and dimensions of our standard plugs.

### Apparatus Blank Type

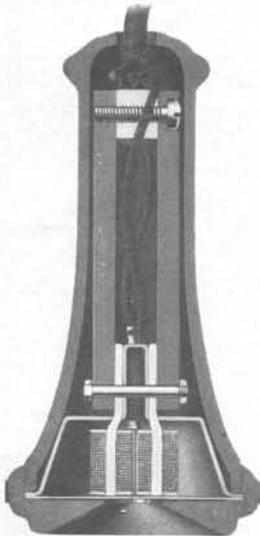
| Code No. | Shape of tip | Diameter of plug | Total Length              | Material | Finish            | Remarks                           |
|----------|--------------|------------------|---------------------------|----------|-------------------|-----------------------------------|
| 124      | Round        | .3125            | $\frac{11}{16}$ " & Screw | Birch    | Imitation Leather | Used with Pc. No. 6074 Bushing.   |
| 132      | Round        | .115             | $\frac{11}{16}$ "         | Brass    | Black Enamel      | Used with No. 233 Mounting Strip. |

## RECEIVERS — SUBSCRIBERS'

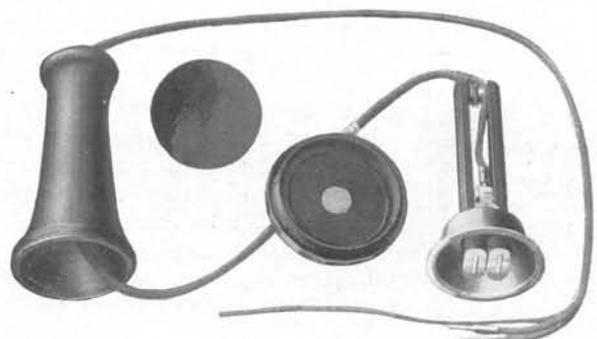
Kellogg receivers are scientifically correct in design and construction, insuring the maximum of efficiency combined with permanent adjustment and long life. These receivers are so designed that cords with either spade or spike tips can be used.

Thirty-six inch brown mercerized cords are furnished on all telephone receivers unless otherwise specified. If a different cord is required, full description can be had by referring to the cord list in this catalog.

The standard receiver shell is made from the famous Kellogg BAKELITE. The material itself is produced by the condensation of formaldehyde and carbolic acid to a powdered form. It is then moulded into shape with great pressure by steam heated hydraulic presses, the moulding temperature being 350° F. (120 lbs. steam pressure) and the hydraulic pressure is from 1,500 to 2,000 lbs. per square inch of mould surface. When moulded by the Kellogg process, Bakelite is:



Enlarged view to show details of construction.



1st—Practically unbreakable. Tensile strength 3,600 to 3,900 lbs. per square inch—as “strong as iron.”

2nd—A perfect dielectric. Dielectric strength of 300 to 350 volts per mile—many times as much as rubber.

3rd—Shape retaining. Will not warp or discolor; co-efficient of expansion only .000034 inches for each degree centigrade, just enough elasticity to keep from being brittle.

4th—Oil, water, moisture and color proof. Impervious to most of the organic acids.

5th—Odorless. Absolutely no obnoxious smell.

6th—Non-inflammable. Positively will not burn. Resists temperatures up to 350° F., and somewhat higher for short periods. At higher temperatures Kellogg Bakelite only chars.

7th—Light weight. Specific gravity of only 1.33. Weighs only as much as an equal volume of hard rubber.

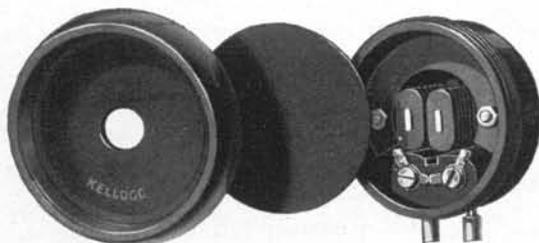
A sanitary feature of Kellogg Bakelite receiver shells and mouthpieces is that they can be cleaned and disinfected by boiling in water.

Approximate weight packed for shipment—one pound.

| Code No. | Resistance | Description  | Remarks                                 |
|----------|------------|--|---|
| 41A      | 60 ohms    | Bakelite shell and cap.                                  | Fitted with 98TR cord with spike tips.  |
| F41A     | 60 ohms    | Same as No. 41 but with cord having spade tips.          | Fitted with F98TR cord with spade tips. |
| F41B     | 650 ohms   | Same as No. F41 but high resistance for railway work.    | Fitted with F98TR cord with spade tips. |
| F66      | 85 ohms    | Similar to No. F41 but direct current. Replaces No. F36. | Fitted with F98TR cord with spade tips. |

Receiver cords are 36 inches from tip to tip. Any of the above receivers will take cords with either spike or spade tips.

## RECEIVERS — OPERATORS'



The Latest Receiver Development, the No. 65A

The No. 65 type operators' receiver, combining real efficiency and permanent, satisfying service, with feather-like weight, is an equipment that will be appreciated by the operator and manager alike.

The total weight of receiver and band is but 3.9 ounces, enabling operators to wear it continuously for the entire period without the least discomfort or fatigue. The total width is  $2 \frac{3}{16}$  inches and the depth or thickness  $\frac{7}{8}$  inches. Terminals are entirely enclosed within the shell; solid horseshoe permanent magnet, and electro-magnets of high grade wire wound on cores of special magnet iron. The head band is arranged to permit the receiver to be adjusted in any position that is most comfortable to the wearer.



No. 65A Rec.  
And  
No. 12 Head  
Band.  
Total Weight  
3.6 Ounces

| Code No. | Resistance | Description   | Use   |
|----------|------------|---|---|
| 65-A     | 100 Ohms   | Bakelite shell and cap. No. 12 head band included unless otherwise specified. | Standard for all switchboards any make.   |
| 46-A     | 140 Ohms   | Bakelite shell and cap. Specify head band desired.                            | Formerly used on all switchboards. Replaced by No. 65-A.  |
| 62-A     | 100 Ohms   | Light weight receiver similar to No. 65-A but has three terminals.            | Extra terminal connected to center of the two coils to be used for busy test on Sterling multiple boards. |
| 14-A     | 140 Ohms   | Rubber shell and cap.   | Used only on lineman's test set with special switch hook.   |



No. 69A Head Set

### Head Receivers—Railway Dispatching

|      |           |   |                               |
|------|-----------|---|-------------------------------|
| 46-B | 650 Ohms  | Same as No. 46-A but resistance. Specify head band.   | Railway dispatching circuits. |
| 65-B | 1200 Ohms | Light weight similar to No. 65-A but high resistance and bakelite shell and cap. No. 12 Head band included. | Railway dispatching circuits. |
| 69-A | 2400 Ohms | Consisting of two No. 65-B receivers and No. 10 khaki web covered wire head band and No. 617 cord.          | Railway dispatching circuits. |

## HEAD BANDS

### For Operators' Receivers



No. 2

Code No. 2, flat spring steel, black enamel with leather cover for one receiver.

Code No. 3, flat spring steel plain with leather cover for two receivers.

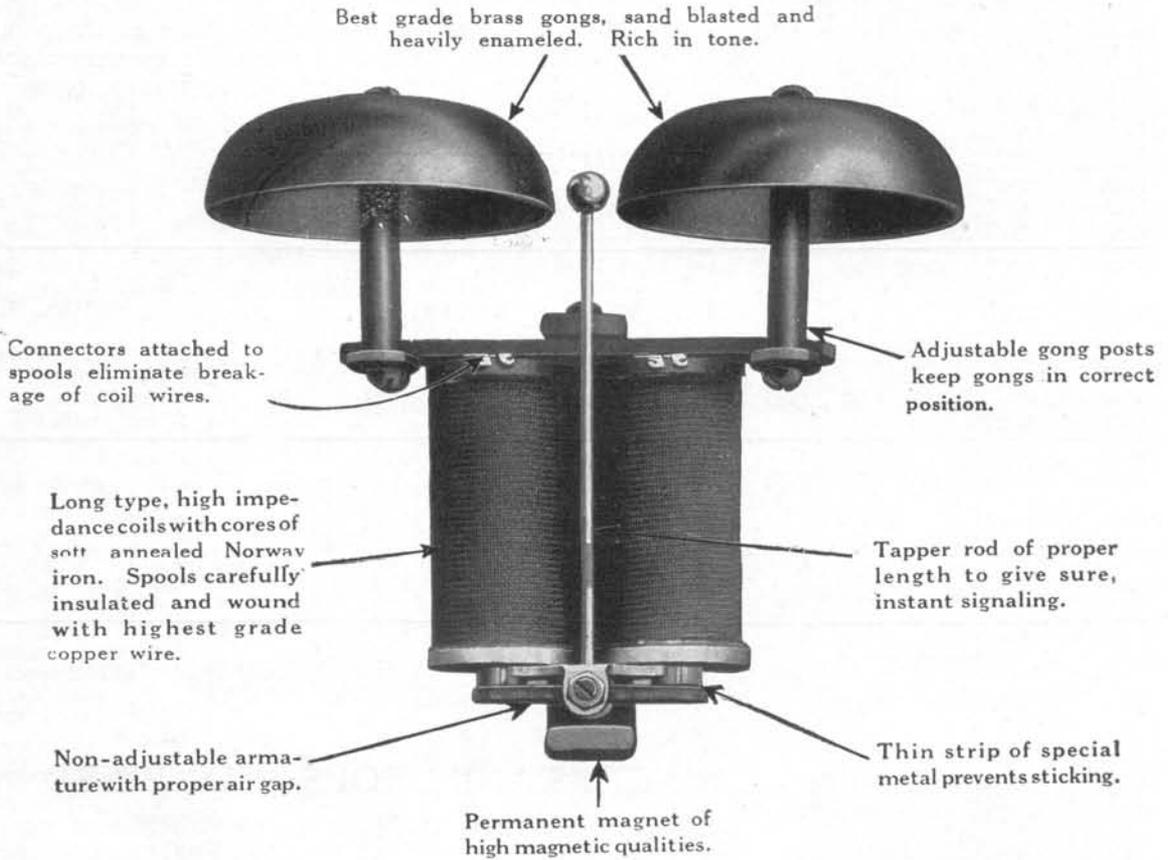
Code No. 12 new type wire band, for No. 65-A receiver only.



No. 12

## RINGERS

Kellogg ringers are constructed throughout of the best materials and are so designed that they will not magnetize and stick. They can be furnished in either the adjustable or non-adjustable type and are fitted with high-grade brass gongs which are sand blasted and heavily enameled.

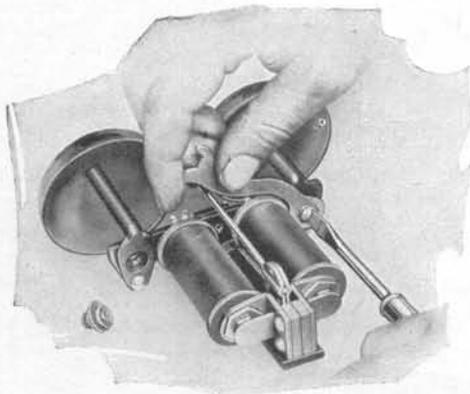


### Non-Adjustable Type

| Code No. | Size of Gongs | Ohms Resistance |    |     |      |     |     |      |      | Remarks                          |
|----------|---------------|-----------------|----|-----|------|-----|-----|------|------|----------------------------------|
|          |               | A               | B  | C   | D    | E   | F   | G    | H    |                                  |
| 78       | 2½"           | 1000            |    |     | 1600 |     |     | 2500 | 2000 | Standard for Mag. Tel's.         |
| 55       | 3 "           | 1000            | 80 | 500 | 1600 | 100 | 250 | 2500 | 2000 | Same as No. 78, but 3-in. gongs. |
| 61       | 4 "           | 1000            |    | 500 | 1600 |     |     | 2500 |      | Same as No. 78 but 4-in. gongs.  |
| 69       | 6 "           | 1000            |    | 500 | 1600 |     |     | 2500 |      | Same as No. 61 but 6 in. gongs.  |
| 70       | 1¾"           | 1000            |    |     |      |     |     |      |      |                                  |

### Adjustable Type

|    |     |      |      |      |      |  |     |      |  |                                      |
|----|-----|------|------|------|------|--|-----|------|--|--------------------------------------|
| 18 | 1¾" |      | 1000 | 1600 |      |  |     |      |  | No. 1016 lineman's test set.         |
| 36 | 4 " | 1000 | 1600 |      |      |  |     | 2500 |  | Malleable iron railway telephone.    |
| 79 | 2½" | 1000 |      | 500  | 1600 |  | 250 | 2500 |  | Biased.                              |
| 84 | 2½" | 1000 |      | 500  | 1600 |  |     | 2500 |  | C. B. Tel's.                         |
| 85 |     |      | 1000 | 500  |      |  |     |      |  | Biased for flat steel desk set box.  |
| 86 |     | 1000 |      | 500  |      |  |     |      |  | Regular for flat steel desk set box. |



## RINGERS

### Harmonic Type

#### Center Gongs

Kellogg harmonic ringers are equipped with a positive gong adjustment. Once set, the adjustment remains so indefinitely.

The gongs are of the center mounted type securely mounted on the gong posts.

The adjustment is made at the base of the gong post with the aid of a screw driver and a special wrench furnished with the ringer, and only requires a few minutes' time.

| Code No. | Size of Gongs | Frequencies |    |     |     | Frequencies |    |    |    |    |    |
|----------|---------------|-------------|----|-----|-----|-------------|----|----|----|----|----|
|          |               | 1           | 2  | 3   | 4   | 1           | 2  | 3  | 4  |    |    |
| 72-A     | 2½"           | 33⅓         | 50 | 66⅔ | 16⅔ |             |    |    |    |    |    |
| 73-A     | 2½"           |             |    |     |     | 30          | 42 | 54 | 66 |    |    |
| 74-A     | 2½"           |             |    |     |     |             |    |    |    | 20 | 60 |
| 87-A     | 2½"           | 33⅓         | 50 | 66⅔ | 16⅔ |             |    |    |    |    |    |
| 88-A     | 2½"           |             |    |     |     | 30          | 42 | 54 | 66 |    |    |
| 89-A     | 2½"           |             |    |     |     |             |    |    |    | 20 | 60 |
| 43-A     | 6 "           | 33⅓         | 50 | 66⅔ | 16⅔ |             |    |    |    |    |    |
| 67-A     | 6 "           |             |    |     |     | 30          | 42 | 54 | 66 |    |    |
| 95-A     | 6 "           |             |    |     |     |             |    |    |    | 20 | 60 |
| 44-A     | 4 "           | 33⅓         | 50 | 66⅔ | 16⅔ |             |    |    |    |    |    |
| 68-A     | 4 "           |             |    |     |     | 30          | 42 | 54 | 66 |    |    |
| 93-A     | 4 "           |             |    |     |     |             |    |    |    | 20 | 60 |

For Nos. 75 and 404 flat steel boxes.  
For Nos. 75 and 404 flat steel boxes.  
For Nos. 75 and 404 flat steel boxes.  
For No. 47 ext. bells.  
For No. 47 ext. bells.  
For No. 47 ext. bells.  
No. 43-A, but gongs for No. 43 ext. bells.

### Vibrating Type

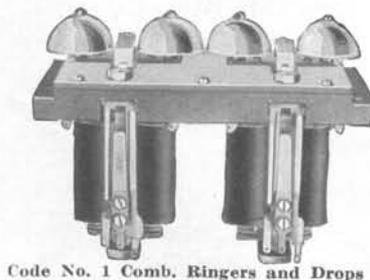
| Code No. | Size of Gongs | A  | Res. B | C   |
|----------|---------------|----|--------|-----|
| 24       | 2½"           | 4  | 50     | 300 |
| 49       | 2½"           | 50 | 300    |     |

Used in oak intercom. sets.

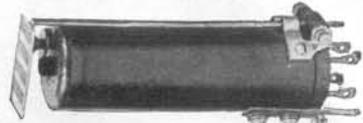
No. 24, but arranged for steel sets.

## RINGERS AND DROPS—COMBINED

Combined ringers and drops for use in switchboard work where a drop shutter is not sufficient to signal the operator can be furnished in two types as listed below.



Code No. 1 Comb. Ringers and Drops



Code No. 14—Mech. Signal

#### Adjustable Type

|              |           |
|--------------|-----------|
| Code No. 1-A | 1000 Ohms |
| Code No. 1-D | 1600 Ohms |
| Code No. 1-E | 2500 Ohms |
| Code No. 2-A | 1000 Ohms |
| Code No. 2-D | 1600 Ohms |

#### Non-Adjustable Type

|              |           |
|--------------|-----------|
| Code No. 3-A | 1000 Ohms |
| Code No. 3-D | 1600 Ohms |
| Code No. 3-E | 2500 Ohms |



No. 12 Mech. Signal

## SIGNALS—MECHANICAL

| Code No. | Type Shutter | Mtg. Centers | Night Alarm | Resistances |     |      |     |     |      |     |      | Where Used                    |
|----------|--------------|--------------|-------------|-------------|-----|------|-----|-----|------|-----|------|-------------------------------|
|          |              |              |             | A           | B   | C    | D   | E   | F    | G   | H    |                               |
| 7        | Gridiron     | 1"           | 1           | 500         | 100 | 50   | 200 | 250 | 1000 | 150 | 3000 | Line on C. B. systems.        |
| 8        | Gridiron     | 1"           |             | 250         | 100 | 200  | 50  | 20  |      |     |      | Supervisory on C. B. systems. |
| 12       | Target       | ½"           |             | 160         | 100 | 1600 |     |     |      |     |      | Busy test on toll boards.     |
| 14       | Gridiron     | 1"           | 1           | 250         | 200 |      |     |     |      |     |      | No. 7, but insulated.         |

## STRIPS—MOUNTING

### Meter and Automatic Dial



No. 338

| Code No. | No. Strip | Per Width of Strip               | Centers Spaced                   | Mtg. Centers                      | Length of Face | Material | Length Over All                   | Remarks                           |
|----------|-----------|----------------------------------|----------------------------------|-----------------------------------|----------------|----------|-----------------------------------|-----------------------------------|
| 380      | 1         | .....                            | .....                            | .....                             | .....          | Steel    | .....                             | Mounts on Ebonized Jack Panel.    |
| 382      | 1         | 2 <sup>3</sup> / <sub>16</sub> " | .....                            | .....                             | .....          | Steel    | .....                             | Mounts on Ebonized Jack Panel.    |
| 343      | 6         | 1 <sup>3</sup> / <sub>8</sub> "  | 1 <sup>9</sup> / <sub>16</sub> " | 10 <sup>5</sup> / <sub>16</sub> " | .....          | Steel    | 10 <sup>3</sup> / <sub>16</sub> " | For No. 5 Meters.                 |
| 338      | 10        | 1 <sup>1</sup> / <sub>2</sub> "  | 2"                               | 22"                               | .....          | Steel    | 22 <sup>3</sup> / <sub>4</sub> "  | For No. 5 Meters.                 |
| 423      | 10        | 1 <sup>1</sup> / <sub>2</sub> "  | 2"                               | 22"                               | .....          | Steel    | 22 <sup>3</sup> / <sub>4</sub> "  | No. 338 but mounts perpendicular. |
| 340      | 1         | .....                            | .....                            | .....                             | .....          | Steel    | .....                             | Dial Mounts Flush.                |
| 463      | 1         | .....                            | .....                            | .....                             | .....          | Steel    | .....                             | Dial Mounts Flush.                |

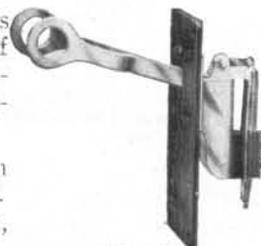
## SWITCHES — HOOK

Kellogg hookswitches are made of punched brass which is handsomely nicked. The springs are of heavy German silver with platinum contacts and assembled with a strong, steel reinforcing spring. Kellogg Bakelite Dilecto insulation is used.



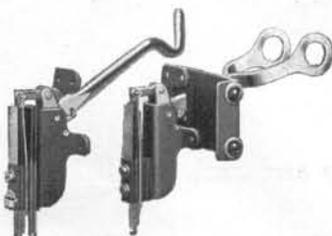
No. 100

With these standard hookswitches, the hook can be removed by simply pushing the springs forward. These hookswitches are most simple in construction, but are reliable and require practically no attention.



No. 103

| Code No. | Contacts  |         | Where Used  |
|----------|-----------|---------|---|
|          | Hook Down | Hook Up |   |
| 100      | .....     | .....   | Dummy hook.   |
| 101      | .....     | 2       | Common battery short backboard telephones.                        |
| 103      | .....     | 2       | Magneto and common battery wood telephones.                       |
| 105      | .....     | 2       | No. 103. Less escutcheon.   |
| 113      | .....     | 2       | Common battery steel hotel sets.                                  |
| 116      | .....     | 2       | Common battery steel wall sets with Grabaphone. No. 113 but hook. |
| 123      | 1         | 2       | Extension sets with Grabaphone.                                   |



No. 123      No. 113  
(Two Standard Hookswitches)

## SWITCHES — PLUG

Kellogg plug switches for use in transferring circuits are especially adapted for this purpose, being so constructed that no particles of dirt can clog up the contacts. They are furnished in the following types:

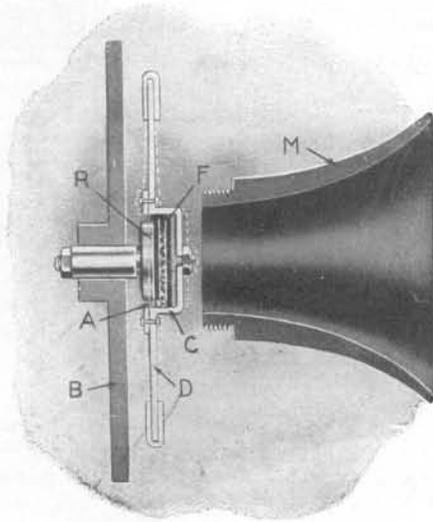


No. 5 Plug Switch

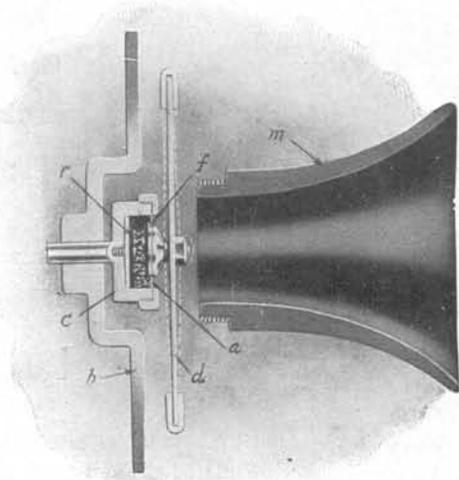
### For Switchboards

| Code No. | Frame | Break | Make & Break | Sets of Springs | Remarks                                |
|----------|-------|-------|--------------|-----------------|--|
| 5        | Brass | ....  | 1            | 1               | Necessary to force plug down.          |
| 6        | Brass | ....  | 1            | 1               | Similar to No. 5 but fits No. 78 plug. |
| 7        | Brass | 1     | ....         | 1               | Similar to No. 5 but fits No. 74 plug. |

**TRANSMITTERS**



**Kellogg**



**Not Kellogg**

Conditions throughout the country clearly indicate that telephone companies who are not using Kellogg transmitters are under heavy maintenance expense and are often continually changing from one type of transmitter to another in hope of reducing maintenance expense and securing satisfactory transmission.

In view of the above conditions, it is not only our desire but our duty to see that all telephone companies become thoroughly familiar with the superiority of Kellogg transmitters and adopt them as their standard.

The Kellogg reverse type solid back transmitter is well known to the telephonic world. Designed nineteen years ago, it has held the distinction of being the unchangeable standard of excellence for high grade transmission. There are today over three million in use giving unequalled service in all classes of work and in all parts of the world.

Except Kellogg, every transmitter manufactured today could be likened to all other transmitters:—Kellogg stands apart, unique in design and original in principle; a happy combination of quality and efficiency.

**GUARANTEE:** The Kellogg transmitter is guaranteed superior to any other make on the market, and any part showing an inherent defect within one year will be repaired or replaced free on being returned to the Kellogg Company, prepaid.

**TRANSMITTER REPAIRS:** Old Kellogg transmitters, when returned to the factory, charges prepaid, with no parts broken, will be reconstructed, carbon electrode reground, new granular carbon, and a new rubber gasket will be installed at a very small cost, making the transmitter as good as new so far as transmission is concerned. Unless otherwise instructed, we will re-nickel the case, for which an additional charge is made.

Our transmitters are regularly furnished in three different types: "LC"—used for local or common battery; "C"—used for common battery only; "L"—for special local battery conditions.

When specified, transmitters for telephones will be furnished with 2 connecting cords, 15 inches long.

Machine screws and washers for attaching the transmitter to arm will be furnished only when specified.

Net weight complete telephone transmitter (with mouthpiece) .....11½ ozs.

Net weight complete telephone transmitter (with mouthpiece) less back..... 8½ ozs.

Special markings on transmitter fronts, such as the name of the telephone company, require special tools and cause delayed shipment. Customers desiring special markings should make use of our No. 88 name plate or card holder, which attaches to any Kellogg transmitter by means of the screws which hold the transmitter front in place.



Complete Transmitter  
No. 64 Type

## TRANSMITTERS

### No. 22 Type

With Backs and Mouthpieces

For Magneto and Common Battery Telephones

Furnished in Black Enamel



Transmitter  
Front Only  
No. 64 Type

| Code No. | Description  | Use   |
|----------|--|---|
| 22-L     | Low resistance, insulated contact. Attaches to arm by means of two screws. Includes back and mouthpiece.                         | For general service, including railway dispatching use. |
| 22-C     | Same as 22-L but high resistance.  | Common battery telephones.                              |
| 22-LC    | Same as 22-C but universal.  | Magneto telephones.                                     |
| 23-L     | Same as 22-L but back has rubber bushing for exposed cord.   | Old type magneto.                                       |
| 23-C     | Same as 23-L but high resistance.  | Old type common battery telephones.                     |
| 44-L     | Low resistance, insulated contact N. P. finish. Includes back with rubber bushing for exposed cord, mouthpiece and mounting lug. | Fits old Kellogg magneto desk stands.                   |
| 44-C     | Same as 44-L but high resistance.  | Fits old Kellogg common battery desk stands.            |
| 105-L    | Similar to 22-L but special back and terminal block or bridge.   | Fits Bell arm and cord.                                 |
| 105-C    | Same as 105-L but high resistance.   | Fits Bell arm and cord.                                 |
| 105-LC   | Same as 105-L but universal.   | Fits Bell arm and cord.                                 |

### No. 64 Type—No Back, But With Mouthpiece

|       |  |  |
|-------|--|--|
| 32-L  | Low resistance, insulated contact. Includes mouthpiece, no back. Bridge drilled and tapped for mounting on steel sets. | Portable railway sets and mine telephones.   |
| 32-C  | Same as 32-L but high resistance.  | Portable railway sets and mine telephones.   |
| 32-LC | Same as 32-C but universal.  | Portable railway sets and mine telephones.   |
| 64-L  | Same as 22-L but no back.  | Desk stands for railway dispatching service. |
| 64-C  | Same as 22-C but no back.  | Desk stands for C. B. service.               |
| 64-LC | Same as 22-LC but no back.   | Desk stands for magneto service.             |

## Grabaphone Type

### Nickel Plated

| Code No. | Description   | Use                              |
|----------|---|----------------------------------|
| 50-L     | Low resistance, insulated contact, N. P. finish, includes mouthpiece and back, attaches by means of two screws. | No. 11-L and 12-L grabaphones    |
| 50-C     | Same as 50-L, but high resistance.  | No. 11-C and 12-C grabaphones.   |
| 50-LC    | Same as 50-C, but universal.  | No. 11-LC and 12-LC grabaphones. |
| 58-L     | Same as 50-L, but bridge assembly.  | No. 13-L and 14-L grabaphones    |
| 58-C     | Same as 50-C, but bridge assembly.  | No. 13-C and 14-C grabaphones.   |
| 58-LC    | Same as 50-LC, but bridge assembly.   | No. 13-LC and 14-LC grabaphones. |

## TRANSMITTERS

### Operators

| Code No. | Description  | Use                                   |
|----------|--|---------------------------------------|
| 55-L     | Low resistance, insulated contact, semi-gloss black enamel finish, suspended by two 72-inch cords, complete with back and mouthpiece.  | Magneto switchboards.                 |
| 55-C     | Same as 55-L, but high resistance.   | Common battery boards and P. B. X.'s. |
| 55-LC    | Same as 55-L, but high resistance.   | Universal switchboards.               |
| 76-L     | Same as 55-C, but universal. Low resistance, insulated contact. Breast plate type, made of polished aluminum, includes neck band and mouthpiece. No cords.   | Magneto switchboards.                 |
| 76-C     | Same as 76-L, but high resistance.   | Common battery boards.                |
| 76-LC    | Same as 76-C, but universal.   | Universal switchboards.               |
| 1076-C   | Same as 76-C but is pure white and bright aluminum; the breastplate is constructed of aluminum, celluloid veneered; the mouthpiece is of hard rubber, heavily white enameled. Transmitter shell is aluminum. |                                       |
| 1076-LC  | Same as 1076-C, but universal.   |                                       |



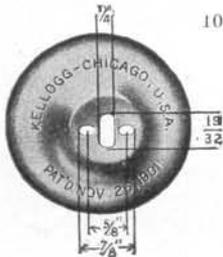
Suspended Transmitter



Breast Plate Transmitter



No. 1076 Breast Plate Transmitter



Pc. 10259

### Transmitter Backs

For attaching Kellogg transmitters to other makes of telephones.



Pc. 34155



Pc. 29748



Pc. 5755



Pc. 27505

#### Description

- Pc. 10259 Kellogg standard transmitter back, furnished on all telephone transmitters unless otherwise ordered. Will attach to any make telephone arm requiring two screws for mounting transmitter.
- Pc. 34155 Back only, to fit all types of Western Electric telephone arms with concealed cord.
- Pc. 29748 Back only, to fit all types of Western Electric telephone arms with exposed cord.
- Pc. 5755 Back only, to fit old style American Electric telephone arm with exposed cord.
- Pc. 27505 Back only, to fit Sterling Electric telephone arm with concealed cord.

### TRANSMITTER ADAPTERS



Pc. 6889



Pc. 8274



Pc. 8545



Pc. 5742



Pc. 33860

While we have listed many types of adapters for attaching our transmitter to other makes of special telephone arms, we do not recommend their general use, as experience has proven that it is more satisfactory to use our transmitter with the No. 42 or 41 arm attached than it is to use an adapter for attaching transmitter to an old arm. This provides a more modern and rigid apparatus and at the same time conforms with the present standards.

Note: In ordering specify transmitter code number, together with piece part number of adapter required.

| Piece Part No. | Description  |
|----------------|--|
| Pc. 33860      | Adapter for attaching our transmitter to Western Electric desk or wall set. Cast brass lug, drilled to fit our standard transmitter back, arranged for concealed cords. If exposed cords are in use specify No. 23 type transmitter. |
| Pc. 5742       | Adapter for attaching our standard transmitter to old style Stromberg-Carlson telephone arms, concealed cord.  |
| Pc. 8545       | Adapter for attaching our standard transmitter to old style American Electric telephone arm, concealed cord.   |
| Pc. 8274       | Adapter for attaching our standard transmitter to Ericsson telephone arm, concealed cord.  |
| Pc. 6889       | Adapter for attaching our standard transmitter to North Electric telephone arm, concealed cord.  |

## TRANSMITTER MOUTHPIECES

### Telephone



Pc. No. 29779



Pc. No. 38191

Pc. No. 29779 telephone mouthpieces are made of Kellogg Bakelite, which is unbreakable in ordinary service. These mouthpieces retain their glossy finish and are not affected by heat, chemicals, moisture, etc.

Pc. No. 29779 for Kellogg telephones. Pc. No. 38191 hard rubber for grabaphones, old style.

Pc. No. 43963 for new type grabaphones, brass black enameled.

Pc. No. 34419 special for Stromberg-Carlson Telephones. Also fits Monarch, American Electric and several other makes of equipment.

### Operators' Set



Pc. No. 29776

Pc. No. 29776 is constructed of hard rubber and will fit all Kellogg operators' transmitters

## RECEIVER SHELLS

Kellogg Bakelite receiver shells are a big factor in the reduction of the maintenance of telephones.

They are practically unbreakable and have a beautiful finish that is lasting. After years of hard service they still retain their "newness." Some Kellogg Bakelite advantages:

1st—Unbreakable; tensile strength 3,600 to 3,900 lbs. per square inch—as "strong as iron."

2nd—A perfect dielectric; dielectric strength of 300 to 350 volts per mil—many times as much as rubber.

3rd—Shape retaining; will not warp or discolor, coefficient of expansion only .000034 inches for each degree centigrade, just enough elasticity to keep from being brittle.

4th—Oil, water, moisture and color proof; impervious to most of the organic acids excepting nitric acid and concentrated sulphuric acid.

5th—Odorless; absolutely no obnoxious smell.

6th—Non-inflammable; positively will not burn; resists temperature up to 350° F., and somewhat higher for short periods. At higher temperatures Kellogg Bakelite only chars.

7th—Light weight; specific gravity of only 1.33 weighs only as much as an equal volume of hard rubber.

A sanitary feature of Kellogg Bakelite receiver shells and mouthpieces is that they can be cleaned and disinfected by boiling in water.

Pc. No. 27944 shell with Pc. No. 32307 cap also fits W. E. Co., Monarch, American and certain dates of Dean and Garford receivers.

## WEIGHTS—CORD



No. 8



No. 9

| Code No. | Material       | Length | Width  | Thickness | Weight in Ounces | Where Used   |
|----------|----------------|--------|--------|-----------|------------------|--|
| 4        | Cast iron      | 3 1/4" | 1 1/4" | Round     | 16               | On transmitter cords.                                  |
| 6        | Cast iron      | 6 7/8" | 2 1/2" | 2 5/8"    | 44               | Main frame test shoe cords.                            |
| 7        | Cast iron      | 7 5/8" | 2 1/2" | 1 1/4"    | 28 3/4           | Main frame test shoe cords.                            |
| 8        | Cast iron      | 7 1/2" | 2 1/2" | 1 "       | 20 1/4           | Main frame test shoe cords.                            |
| 9        | Steel and lead | 4 "    | 1 3/4" | 1/2"      | 9 to 11          | On switchboard cords.                                  |
| 10       | Steel and lead | 4 "    | 1 3/4" | 1/2"      | 18 to 22         | Two No. 9 weights combined. Used on switchboard cords. |

Prices in this list subject to change without notice. Write us for later prices.

*A Price List that will save you money—Order now—  
Prompt shipments*



MAIN OFFICES AND FACTORY—1066 WEST ADAMS STREET, CHICAGO

*Use—Is the Test*

# CONDENSED Price List No. 460

on

## Kellogg Equipment

Listed in same order as our  
Catalog No. 7, are our latest  
prices on telephone and  
switchboard apparatus

*June 1926*

### **KELLOGG SWITCHBOARD & SUPPLY CO.**

Main Offices and Factory, Chicago

Branch Offices and Warehouses

Columbus, Ohio

Kansas City, Mo.  
Portland, Ore.

San Francisco, Cal.

---

Please mention Form 460 when ordering from this price list

Form No. 460—Mer.—7500—6-26

# Notice!

This Condensed Apparatus Price List is based upon our Catalogue Number 7, which is a complete listing of all Kellogg products. If you do not have a copy of this catalogue, kindly advise us promptly so that we may send you one.

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## TELEPHONES—MAGNETO

### COMPACT TYPE No Push Button

| Code No.   | f. o. b. Chicago, Ill. | f. o. b. Columbus, Ohio | f. o. b. Kansas City, Mo. | f. o. b. Portland, Ore., San Francisco, Cal. |
|--|------------------------|-------------------------|---------------------------|--|
| F-2809   | \$16.70                | \$17.00                 | \$17.00                   | \$17.70                                      |
| F-2811   | 17.05                  | 17.35                   | 17.35                     | 18.05  |
| F-2812   | 17.45                  | 17.75                   | 17.75                     | 18.45  |
| F-2859   | 17.60                  | 17.90                   | 17.90                     | 18.60  |
| <b>Straight Line Ringers with Condenser in Secondary</b> |                        |                         |                           |  |
| F-2815   | \$17.65                | \$17.95                 | \$17.95                   | \$18.65                                      |
| F-2816   | 18.05                  | 18.35                   | 18.35                     | 19.05  |
| F-2880   | 18.20                  | 18.50                   | 18.50                     | 19.20  |

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### Straight Line Ringer—P. & A. C. Generator

#### Push Button

|   |         |         |         |         |
|---|---------|---------|---------|---------|
| F-2819                                    | \$18.15 | \$18.45 | \$18.45 | \$19.15 |
| F-2820                                    | 18.55   | 18.85   | 18.85   | 19.55   |
| F-2860                                    | 18.70   | 19.00   | 19.00   | 19.70   |
| <b>Straight Line Ringer—Grounding Key</b> |         |         |         |         |
| F-2823                                    | \$17.90 | \$18.20 | \$18.20 | \$18.90 |
| F-2824                                    | 18.30   | 18.60   | 18.60   | 19.30   |
| F-2881                                    | 18.45   | 18.75   | 18.75   | 19.45   |
| <b>Harmonic Ringer—No Push Button</b>     |         |         |         |         |
| F-2807                                    | \$17.45 | \$17.75 | \$17.75 | \$18.45 |
| F-2873                                    | 18.30   | 18.60   | 18.60   | 19.30   |
| <b>Biased Ringer—No Push Button</b>       |         |         |         |         |
| F-2808                                    | \$16.80 | \$17.10 | \$17.10 | \$17.80 |

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### RESIDENCE TYPE

#### Straight Line Ringer No Push Button

| Code No.  | f. o. b. Chicago, Ill. | f. o. b. Columbus, Ohio | f. o. b. Kansas City, Mo. | f. o. b. Portland, Ore., San Francisco, Cal. |
|---|------------------------|-------------------------|---------------------------|--|
| F-1809  | \$16.45                | \$16.75                 | \$16.75                   | \$17.45                                      |
| F-1812  | 17.15                  | 17.45                   | 17.45                     | 18.15  |
| <b>Straight Line Ringer With Condenser in Secondary</b> |                        |                         |                           |  |
| F-1816  | \$17.75                | \$18.05                 | \$18.05                   | \$18.75                                      |
| <b>Biased Ringer—No Push Button</b>                     |                        |                         |                           |  |
| F-2805  | \$16.55                | \$16.85                 | \$16.85                   | \$17.55                                      |
| <b>Harmonic Ringer—No Push Button</b>                   |                        |                         |                           |  |
| F-2804  | \$17.20                | \$17.50                 | \$17.50                   | \$18.20                                      |
| <b>RESIDENCE—GRABAPHONE TYPE</b>                        |                        |                         |                           |  |
| <b>Straight Line Ringer—No Push Button</b>              |                        |                         |                           |  |
| F-1809-G  | \$18.05                | \$18.35                 | \$18.35                   | \$19.05                                      |
| F-1812-G  | 18.80                  | 19.10                   | 19.10                     | 19.80  |
| <b>Straight Line Ringer—Condenser in Secondary</b>      |                        |                         |                           |  |
| F-1816-G  | \$19.40                | \$19.70                 | \$19.70                   | \$20.40                                      |

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## TELEPHONES—MAGNETO—Continued

### MAGNETO DESK SETS—REGULAR TYPE

|      |         |         |         |         |
|------|---------|---------|---------|---------|
| F-9  | \$17.55 | \$17.85 | \$17.85 | \$18.55 |
| F-12 | 18.25   | 18.55   | 18.55   | 19.25   |
| F-59 | 18.40   | 18.70   | 18.70   | 19.40   |

### Straight Line Ringer—Induction Coil—Condenser

|      |         |         |         |         |
|------|---------|---------|---------|---------|
| F-16 | \$18.85 | \$19.15 | \$19.15 | \$19.85 |
| F-80 | 19.00   | 19.30   | 19.30   | 20.00   |

### Selective Ringing—Harmonic—4 and 8 Party

|     |         |         |         |         |
|-----|---------|---------|---------|---------|
| F-7 | \$18.30 | \$18.60 | \$18.60 | \$19.30 |
|-----|---------|---------|---------|---------|

### Biased Ringer for 4 Party Selective System

|     |         |         |         |         |
|-----|---------|---------|---------|---------|
| F-8 | \$17.65 | \$17.95 | \$17.95 | \$18.65 |
|-----|---------|---------|---------|---------|

### DESK STANDS ONLY

#### Prices Include Receivers

|        |         |         |         |         |
|--------|---------|---------|---------|---------|
| F-28   | \$ 7.10 | \$ 7.20 | \$ 7.20 | \$ 7.50 |
| F-67   | 8.90    | 9.00    | 9.00    | 9.30    |
| F-84   | 7.10    | 7.20    | 7.20    | 7.50    |
| F-85-B | 7.10    | 7.20    | 7.20    | 7.50    |

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## MAGNETO DESK SETS—GRABAPHONE TYPE

### Straight Line Ringer—Induction Coil

|        |         |         |         |         |
|--------|---------|---------|---------|---------|
| F-9-G  | \$20.45 | \$20.75 | \$20.75 | \$21.45 |
| F-12-G | 21.15   | 21.45   | 21.45   | 22.15   |
| F-59-G | 21.30   | 21.60   | 21.60   | 22.30   |

### Straight Line Ringer—Induction Coil—Condenser

|        |         |         |         |         |
|--------|---------|---------|---------|---------|
| F-16-G | \$21.75 | \$22.05 | \$22.05 | \$22.75 |
| F-80-G | 21.90   | 22.20   | 22.20   | 22.90   |

### STEEL MAGNETO EXTENSION SET

|          |         |        |        |        |
|----------|---------|--------|--------|--------|
| F-2827-G | \$ 9.40 | \$9.65 | \$9.65 | \$9.80 |
|----------|---------|--------|--------|--------|

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## BRACKET TELEPHONES

| Code No.  | f. o. b. Chicago, Ill. |
|---|------------------------|
| Complete with Desk Set Box  |                        |
| F-609 With No. 1, No. 2 or No. 5 Mounting                         | \$18.95                |
| F-612 With No. 1, No. 2 or No. 5 Mounting                         | 19.65                  |
| For other combinations add Desk Set Box price to following stand. |                        |

### DESK STAND ONLY

|   |        |
|---|--------|
| F-684 With No. 8 Arm and No. 1, No. 2 or No. 5 Mounting             | \$8.50 |
| When equipped with Universal attachment add \$0.90 to above prices. |        |
| If a clamp mounting is desired, use No. 3 and add \$0.30 to price.  |        |

**COMMON BATTERY TELEPHONES**

**General Information**

Black enameled gongs, standard. N. P. gongs furnished only when specified on order.

Common Battery wall telephones, less parts, deduct as follows:

|  |        |
|--|--------|
| For deduction of straight line ringer..... | \$1.50 |
| For deduction of harmonic ringer.....      | 2.00   |
| For deduction of transmitter.....          | 1.65   |
| For deduction of receiver.....             | 1.75   |
| For deduction of induction coil.....       | .80    |

**STEEL RESIDENCE TYPE**

**Induction Coil Circuit—Straight Line Ringer**

| Code No.               | f. o. b. Chicago, Ill. | f. o. b. Columbus, Ohio | f. o. b. Kansas City, Mo. | f. o. b. Portland, Ore., San Francisco, Cal. |
|------------------------|------------------------|-------------------------|---------------------------|--|
| F-742-SA.....          | \$10.50                | \$10.75                 | \$10.75                   | \$11.10                                      |
| <b>Biased Ringer</b>   |                        |                         |                           |  |
| F-742-BA.....          | \$10.60                | \$10.85                 | \$10.85                   | \$11.20                                      |
| <b>Harmonic Ringer</b> |                        |                         |                           |  |
| F-742-HA.....          | \$11.00                | \$11.25                 | \$11.25                   | \$11.60                                      |
| F-742-HB.....          | 11.00                  | 11.25                   | 11.25                     | 11.60  |

**OAK RESIDENCE TYPE**

**Induction Coil Circuit—Straight Line Ringer**

|                        |         |         |         |         |
|------------------------|---------|---------|---------|---------|
| F-729-SA.....          | \$10.50 | \$10.75 | \$10.75 | \$11.10 |
| <b>Biased Ringer</b>   |         |         |         |         |
| F-729-BA.....          | \$10.60 | \$10.85 | \$10.85 | \$11.20 |
| <b>Harmonic Ringer</b> |         |         |         |         |
| F-729-HA.....          | \$11.00 | \$11.25 | \$11.25 | \$11.60 |
| F-729-HB.....          | 11.00   | 11.25   | 11.25   | 11.60   |

**OAK WALL TYPE**

**Induction Coil Circuit—Straight Line Ringer**

|                        |         |         |         |         |
|------------------------|---------|---------|---------|---------|
| F-730-SA.....          | \$11.10 | \$11.35 | \$11.35 | \$11.70 |
| <b>Biased Ringer</b>   |         |         |         |         |
| F-730-BA.....          | \$11.20 | \$11.45 | \$11.45 | \$11.80 |
| <b>Harmonic Ringer</b> |         |         |         |         |
| F-730-HA.....          | \$11.60 | \$11.85 | \$11.85 | \$12.20 |
| F-730-HB.....          | 11.60   | 11.85   | 11.85   | 12.20   |

**GRABAPHONE WALL TYPE**

**Induction Coil Circuit—Straight Line Ringer**

|                        |         |         |         |         |
|------------------------|---------|---------|---------|---------|
| F 9742-SA.....         | \$14.20 | \$14.45 | \$14.45 | \$14.80 |
| <b>Biased Ringer</b>   |         |         |         |         |
| F 9742-BA.....         | \$14.30 | \$14.55 | \$14.55 | \$14.90 |
| <b>Harmonic Ringer</b> |         |         |         |         |
| F 9742-HA.....         | \$14.70 | \$14.95 | \$14.95 | \$15.30 |
| F 9742-HB.....         | 14.70   | 14.95   | 14.95   | 15.30   |

**DESK STANDS ONLY**

**Prices Include Receivers**

|            |        |        |        |        |
|------------|--------|--------|--------|--------|
| F-97.....  | \$8.55 | \$8.65 | \$8.65 | \$8.95 |
| F-118..... | 7.10   | 7.20   | 7.20   | 7.50   |
| F-75.....  | 7.80   | 7.90   | 7.90   | 8.20   |

**GRABAPHONE STANDS ONLY**

|                             |        |        |        |        |
|-----------------------------|--------|--------|--------|--------|
| F-115 A.....                | \$4.25 | \$4.35 | \$4.35 | \$4.45 |
| <b>Grabaphone With Cord</b> |        |        |        |        |
| 11-C.....                   | \$5.75 | \$5.85 | \$5.85 | \$5.95 |

**DESK SETS**

**3 Conductor Type**

To obtain price of complete desk set add price of stand to box selected.

**3 Conductor Desk Stand**

|            |        |        |        |        |
|------------|--------|--------|--------|--------|
| F-118..... | \$7.10 | \$7.20 | \$7.20 | \$7.50 |
|------------|--------|--------|--------|--------|

**DESK SET BOXES**

**Flat Type**

|               |        |        |        |        |
|---------------|--------|--------|--------|--------|
| F-404-SA..... | \$5.80 | \$5.95 | \$5.95 | \$6.00 |
| F-404-BA..... | 5.90   | 6.05   | 6.05   | 6.10   |
| F-404-HB..... | 6.30   | 6.45   | 6.45   | 6.50   |
| F-404-HA..... | 6.30   | 6.45   | 6.45   | 6.50   |

**COMMON BATTERY TELEPHONES**

**Continued**

**DESK SET BOXES**

**Deep Front Type**

| Code No.        | f. o. b. Chicago, Ill. | f. o. b. Columbus, Ohio | f. o. b. Kansas City, Mo. | f. o. b. Portland, Ore., San Francisco, Cal. |
|-----------------|------------------------|-------------------------|---------------------------|--|
| F-257-SA.....   | \$6.30                 | \$6.45                  | \$6.45                    | \$6.50                                       |
| F-257-BA.....   | 6.40                   | 6.55                    | 6.55                      | 6.60   |
| F-257-HB.....   | 6.80                   | 6.95                    | 6.95                      | 7.05   |
| F-257-HA.....   | 6.80                   | 6.95                    | 6.95                      | 7.05   |
| <b>Oak Type</b> |                        |                         |                           |  |
| F-407-SA.....   | \$6.05                 | \$6.20                  | \$6.20                    | \$6.25                                       |
| F-407-BA.....   | 6.15                   | 6.30                    | 6.30                      | 6.35   |
| F-407-HA.....   | 6.55                   | 6.70                    | 6.70                      | 6.75   |
| F-407-HB.....   | 6.55                   | 6.70                    | 6.70                      | 6.75   |
| F-407-HC.....   | 6.55                   | 6.70                    | 6.70                      | 6.75   |

**2 Conductor Type**

To obtain price of complete desk set add price of stand to box selected.

**2 Conductor Desk Stand**

|           |        |        |        |        |
|-----------|--------|--------|--------|--------|
| F-97..... | \$8.55 | \$8.65 | \$8.65 | \$8.95 |
|-----------|--------|--------|--------|--------|

**DESK SET BOXES**

**Flat Type**

|              |        |        |        |        |
|--------------|--------|--------|--------|--------|
| F-75-SA..... | \$5.00 | \$5.15 | \$5.15 | \$5.20 |
| F-75-BA..... | 5.10   | 5.25   | 5.25   | 5.30   |
| F-75-HB..... | 5.50   | 5.65   | 5.65   | 5.70   |
| F-75-HA..... | 5.50   | 5.65   | 5.65   | 5.70   |

**Deep Front Type**

|               |        |        |        |        |
|---------------|--------|--------|--------|--------|
| F-259-SA..... | \$5.55 | \$5.70 | \$5.70 | \$5.75 |
| F-259-BA..... | 5.65   | 5.80   | 5.80   | 5.85   |
| F-259-HB..... | 6.05   | 6.20   | 6.20   | 6.25   |
| F-259-HA..... | 6.05   | 6.20   | 6.20   | 6.25   |

**Oak Type**

|               |        |        |        |        |
|---------------|--------|--------|--------|--------|
| F-408-SA..... | \$5.30 | \$5.45 | \$5.45 | \$5.50 |
| F-408-BA..... | 5.40   | 5.55   | 5.55   | 5.60   |
| F-408-HA..... | 5.80   | 5.95   | 5.95   | 6.00   |
| F-408-HB..... | 5.80   | 5.95   | 5.95   | 6.00   |
| F-408-HC..... | 5.80   | 5.95   | 5.95   | 6.00   |

**GRABAPHONE TYPE**

To obtain price of complete grabaphone set add price of grabaphone and grabaphone stand to box selected.

**Grabaphone Stand**

|              |        |        |        |        |
|--------------|--------|--------|--------|--------|
| F-115-A..... | \$4.25 | \$4.35 | \$4.35 | \$4.45 |
|--------------|--------|--------|--------|--------|

**Grabaphone**

|             |        |        |        |        |
|-------------|--------|--------|--------|--------|
| F-11-C..... | \$5.75 | \$5.85 | \$5.85 | \$5.95 |
|-------------|--------|--------|--------|--------|

**DESK SET BOXES**

**Flat Type**

|               |        |        |        |        |
|---------------|--------|--------|--------|--------|
| F-404-SA..... | \$5.80 | \$5.95 | \$5.95 | \$5.00 |
| F-404-BA..... | 5.90   | 6.05   | 6.05   | 6.10   |
| F-404-HB..... | 6.30   | 6.45   | 6.45   | 6.50   |
| F-404-HA..... | 6.30   | 6.45   | 6.45   | 6.50   |

**Deep Front Type**

|               |        |        |        |        |
|---------------|--------|--------|--------|--------|
| F-257-SA..... | \$6.30 | \$6.45 | \$6.45 | \$6.50 |
| F-257-BA..... | 6.40   | 6.55   | 6.55   | 6.60   |
| F-257-HB..... | 6.80   | 6.95   | 6.95   | 7.05   |
| F-257-HA..... | 6.80   | 6.95   | 6.95   | 7.05   |

**Oak Type**

|               |        |        |        |        |
|---------------|--------|--------|--------|--------|
| F-407-SA..... | \$6.05 | \$6.20 | \$6.20 | \$6.25 |
| F-407-BA..... | 6.15   | 6.30   | 6.30   | 6.35   |
| F-407-HA..... | 6.55   | 6.70   | 6.70   | 6.75   |
| F-407-HB..... | 6.55   | 6.70   | 6.70   | 6.75   |
| F-407-HC..... | 6.55   | 6.70   | 6.70   | 6.75   |

KELLOGG SWITCHBOARD AND SUPPLY COMPANY, CHICAGO

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**COMMON BATTERY TELEPHONES**

Continued  
ENCLOSED GONG WALL TYPE

| Code No.  | f. o. b. Chicago, Ill. | f. o. b. Columbus, Ohio | f. o. b. Kansas City, Mo. | f. o. b. Portland, Ore., San Francisco, Cal. |
|---|------------------------|-------------------------|---------------------------|--|
| F-801-SA  | \$10.40                | \$10.65                 | \$10.65                   | \$11.00                                      |
| F-801-BA  | 10.50                  | 10.75                   | 10.75                     | 11.10  |
| F-801-HA  | 10.90                  | 11.15                   | 11.15                     | 11.50  |
| F-801-HB  | 10.90                  | 11.15                   | 11.15                     | 11.50  |
| Prices above cover telephones having 1-MF Condensers. |                        |                         |                           |  |
| F-802-HA  | \$11.75                | \$12.00                 | \$12.00                   | \$12.35                                      |
| F-802-HB  | 11.75                  | 12.00                   | 12.00                     | 12.35  |
| F-803-BA  | 10.50                  | 10.75                   | 10.75                     | 11.10  |
| F-803-HA  | 10.90                  | 11.15                   | 11.15                     | 11.50  |
| F-803-HB  | 10.90                  | 11.15                   | 11.15                     | 11.50  |

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**ENCLOSED GONG TYPE**

| Desk Stands                        |        |        |        |        |
|------------------------------------|--------|--------|--------|--------|
| F-118 Desk Stand                   | \$7.10 | \$7.20 | \$7.20 | \$7.50 |
| Desk Set Boxes                     |        |        |        |        |
| 600-SA                             | \$5.80 | \$5.95 | \$5.95 | \$6.00 |
| 600-HA                             | 6.30   | 6.45   | 6.45   | 6.50   |
| 600-HB                             | 6.30   | 6.45   | 6.45   | 6.50   |
| 600-BA                             | 5.90   | 6.05   | 6.05   | 6.10   |
| Enclosed Gong Desk Grabaphone Sets |        |        |        |        |
| F 115-A Desk Stand                 | \$4.25 | \$4.35 | \$4.35 | \$4.45 |
| F-11-C Grabaphone                  | 5.75   | 5.85   | 5.85   | 5.95   |
| Desk Set Boxes                     |        |        |        |        |
| 600-SA                             | \$5.80 | \$5.95 | \$5.95 | \$6.00 |
| 600-HA                             | 6.30   | 6.45   | 6.45   | 6.50   |
| 600-HB                             | 6.30   | 6.45   | 6.45   | 6.50   |
| 600-BA                             | 5.90   | 6.05   | 6.05   | 6.10   |

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| Desk Set—Automatic Type            |         |         |         |         |
|------------------------------------|---------|---------|---------|---------|
| F-301, Less Dial.                  | \$7.10  | \$7.20  | \$7.20  | \$7.60  |
| Desk Set Boxes                     |         |         |         |         |
| 600-HA                             | \$6.30  | \$6.45  | \$6.45  | \$6.50  |
| 600-HB                             | 6.30    | 6.45    | 6.45    | 6.50    |
| 600-BA                             | 5.90    | 6.05    | 6.05    | 6.10    |
| Desk Grabaphone Set—Automatic Type |         |         |         |         |
| Desk Stands                        |         |         |         |         |
| F-135, Less Dial.                  | \$4.75  | \$4.85  | \$4.85  | \$4.95  |
| Grabaphone                         |         |         |         |         |
| F-11-C                             | \$5.75  | \$5.85  | \$5.85  | \$5.95  |
| Desk Set Boxes                     |         |         |         |         |
| 600-HA                             | \$6.30  | \$6.45  | \$6.45  | \$6.50  |
| 600-HB                             | 6.30    | 6.45    | 6.45    | 6.50    |
| 600-BA                             | 5.90    | 6.05    | 6.05    | 6.10    |
| Grabaphone Extension Set           |         |         |         |         |
| F-722                              | \$10.00 | \$10.25 | \$10.25 | \$10.40 |

Dial prices will be furnished on application.

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**BRACKET TELEPHONE**

| Code No.                                      | f. o. b. Chicago, Ill. |
|---|------------------------|
| Complete with Desk Set Box                    |                        |
| F-618-SF With No. 1, No. 2 or No. 5 Mounting  | \$14.30                |
| F-618-BF With No. 1, No. 2 or No. 5 Mounting  | 14.40                  |
| F-618-HAF With No. 1, No. 2 or No. 5 Mounting | 14.80                  |
| F-618-HBF With No. 1, No. 2 or No. 5 Mounting | 14.80                  |

For other combinations add Desk Set Box price to following stand.

**DESK STAND ONLY**

F-618 With No. 8 Arm and No. 1, No. 2 or No. 5 Mounting... \$ 8.50

When equipped with Universal attachment add \$0.90 to above prices.

If a clamp mounting is desired, use No. 3 and add \$0.30 to price.

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**TELEPHONES—Continued**

**RAILWAY**

| Portable Sets        |                        |                         |                           |  |
|----------------------|------------------------|-------------------------|---------------------------|--|
| Code No.             | f. o. b. Chicago, Ill. | f. o. b. Columbus, Ohio | f. o. b. Kansas City, Mo. | f. o. b. Portland, Ore., San Francisco, Cal. |
| F-2731               | \$13.00                | \$13.25                 | \$13.25                   | \$13.60                                      |
| Insulated Telephones |                        |                         |                           |  |
| 2744                 | \$21.20                | \$21.50                 | \$21.50                   | \$22.20                                      |
| Oil Field Telephones |                        |                         |                           |  |
| Wall Type            |                        |                         |                           |  |
| 2884                 | \$20.50                | \$20.80                 | \$20.80                   | \$21.50                                      |
| Desk Type            |                        |                         |                           |  |
| Desk Stand 90-A      | \$22.60                | \$22.90                 | \$22.90                   | \$23.60                                      |
| Desk Set Box 2415    |                        |                         |                           |  |
| Connecting Poles     |                        |                         |                           |  |
| 12-B                 |                        |                         |                           | f. o. b. Chicago, Ill. \$9.50                |

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**MALLEABLE IRON CASE**

|      |         |         |         |         |
|------|---------|---------|---------|---------|
| 2868 | \$52.50 | \$53.50 | \$53.50 | \$54.50 |
| 2882 | 52.90   | 53.90   | 53.90   | 54.90   |
| 2883 | 53.15   | 54.15   | 54.15   | 55.15   |

**SETS—TEST**

**LINEMAN'S TEST SET**

|      |  |  |  |                               |
|------|--|--|--|-------------------------------|
| 1025 |  |  |  | f. o. b. Chicago, Ill. \$7.75 |
|------|--|--|--|-------------------------------|

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**BRIDGING TYPE**

|      |  |  |  |         |
|------|--|--|--|---------|
| 1016 |  |  |  | \$18.80 |
|------|--|--|--|---------|

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**RINGING EQUIPMENT**

**DRY BATTERY POLE CHANGERS**

|    |  |  |  |         |
|----|--|--|--|---------|
| 23 |  |  |  | \$25.00 |
| 30 |  |  |  | 27.00   |

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**STORAGE BATTERY POLE CHANGERS**

**Single Frequency**

|      |  |  |  |         |
|------|--|--|--|---------|
| 36-A |  |  |  | \$43.00 |
| 36-B |  |  |  | 43.00   |
| 13   |  |  |  | 26.00   |
| 25-A |  |  |  | 17.50   |

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**Four Frequency**

|    |  |  |  |         |
|----|--|--|--|---------|
| 6  |  |  |  | \$65.00 |
| 17 |  |  |  | 65.00   |

**Five Frequency**

|    |  |  |  |         |
|----|--|--|--|---------|
| 19 |  |  |  | \$89.00 |
|----|--|--|--|---------|

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**RINGING TRANSFORMERS**

|   |  |  |  |         |
|---|--|--|--|---------|
| 2 |  |  |  | \$25.00 |
| 9 |  |  |  | 58.00   |

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**RINGING EQUIPMENT—Continued**  
**MOTOR RINGING GENERATOR**  
**Motor Direct Current, 1150 R. P. M.**  
**Generator—80 volts, 19 cycles**

| Code No. | Chicago, Ill. | f. o. b. |
|----------|---------------|----------|
| 310081   |               | \$108.00 |
| 310082   |               | 108.90   |

**Motor Single Phase, 60 Cycles, A. C., 1150 R. P. M.**  
**Generator—80 volts, 19 cycles**

|        |  |          |
|--------|--|----------|
| 310087 |  | \$108.00 |
| 310088 |  | 108.90   |

**Motor Single Phase, 25 Cycles, A. C., 1400 R. P. M.**  
**Generator—110 volts, 23 cycles**

|        |  |          |
|--------|--|----------|
| 310093 |  | \$117.55 |
| 310094 |  | 118.45   |

Pages 258-270 inclusive

**POLE CHANGERS**

|      |         |
|------|---------|
| 6    | \$65.00 |
| 17   | 65.00   |
| 19   | 89.00   |
| 23   | 25.00   |
| 36 A | 43.00   |
| 36-B | 43.00   |

**TRANSFORMER SETS**

|      |         |
|------|---------|
| 18-A | \$98.75 |
| 19-A | 83.00   |
| 21-A | 83.00   |

**RECTIFIERS**

**Rectigon**

|                          |         |
|--------------------------|---------|
| 3 amp. D. C. and 2 bulbs | \$34.05 |
| Extra bulbs, each        | 3.60    |

**Tungar**

Tungar rectifier with extra bulb 110 volt, 60 cycle S. P. arranged to charge a series of 11 cells lead battery at 2½ amp. Each. \$35.10

110 volt, 60 cycle S. P. arranged to charge a series of 11 cells lead battery at 5 amp. Including extra bulb, each. \$72.00

General Electric Mercury Arc. Rect., 10 amp. \$156.15

**BATTERIES**

| Normal Charge Rate in Amperes | Type  | Price for Complete |          |
|-------------------------------|-------|--------------------|----------|
|                               |       | 11 cells           | 22 cells |
| ¾                             | B. T. | \$ 20.37           | \$ 38.61 |
| 1½                            | C. T. | 29.77              | 57.03    |
| 3                             | P. T. | 51.75              | 100.78   |
| 4½                            | E. T. | 69.62              | 136.49   |
| 5                             | D. 5  | 115.40             |          |
| 10                            | E 5   | 188.21             |          |

**MISCELLANEOUS**

| Code No.                              | Chicago, Ill. | f. o. b.    |
|---------------------------------------|---------------|-------------|
| 3 Battery Feed Coil                   |               | \$5.50 each |
| 4 Battery Feed Coil                   |               | 5.50 each   |
| 81-A Induction Coil                   |               | 1.40 each   |
| 34-A Resistance Coil                  |               | 2.00 each   |
| 23-A Retardation Coil                 |               | 7.50 each   |
| 41-A Retardation Coil                 |               | 3.75 each   |
| P. R. XXX 300 ohm buzzer              | Supplies      |             |
| P. R. XXX 300 ohm bell                | Supplies      |             |
| 454 Knife Switch—(See supply section) |               |             |
| 456 Knife Switch—(See supply section) |               |             |
| 9402 Lamp Socket                      |               | \$0.20 each |
| 25 watt 110 volt Mazda lamp           |               | .25 each    |
| 3327 fuse cut-out base                |               | .50 each    |
| 3325 fuse cut-out base                |               | .35 each    |
| 2602 fuse                             |               | .15 each    |

Pages 258-270 inclusive--Continued

**POWER BOARD**

| Code No.    | Chicago, Ill. | f. o. b. |
|-------------|---------------|----------|
| 33483       |               | \$18.35  |
| Less meters |               |          |
| With Meters |               | 32.75    |

**WIRE**

|  |               |
|--|---------------|
| 105 Cable                                | \$16.00 C ft. |
| 122 Cable                                | 27.65 C ft.   |
| 814 A. B. R. C. (See Price List No. 445) |               |
| 1618 Wire (See Price List No. 445)       |               |

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**KELLOGG ARRESTERS**

| Code No. | Net Price Per Strip |
|----------|---------------------|
| 6        | \$15.00             |
| 9        | 6.00                |
|          | Price Per Pair      |
| 16       | \$1.25              |

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Prices on Application

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**No. 100 Central Office Protector**

|                                    |         |          |
|------------------------------------|---------|----------|
| 1230 Protectors in 10 pr. Sections | \$1.35  | 5%       |
| 1231 Protectors in 20 pr. Sections | 1.25    | 5%       |
| 1232 No. 100 Heat Coils            | .17 ea. | 5%       |
| 1234 No. 100 Test Plugs            | 3.50    | net each |

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**No. 10 Central Office Protector**

| Code No. | Description                   | Price Per Pair | Discount 100 Pairs and Over |
|----------|-------------------------------|----------------|-----------------------------|
| 1100     | Protectors in 10 pr. Sections | \$1.35         | 5%                          |
| 1101     | Protectors in 20 pr. Sections | 1.25           | 5%                          |
| 1103     | No. 10 Wire Wound Heat Coils  | .15 ea.        | 5%                          |
| 1106     | Test Plug                     | 2.75           | each net                    |
| 1112     | Resoldering Clamp             | .25            | each net                    |
| 2802     | Heat Coil Solder              | .40            | oz. net                     |
| 2803     | Heat Coil Flux                | .25            | bottle net                  |

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**NO. 105 CENTRAL OFFICE PROTECTOR**

| Code No. | Description                   | Price Per Pair | Discount 100 Pairs and Over |
|----------|-------------------------------|----------------|-----------------------------|
| 1237     | Protectors in 10 pr. Sections | \$2.60         | 5%                          |
| 1238     | Protectors in 20 pr. Sections | 2.50           | 5%                          |
| 1232     | No. 100 Wire Wound Heat Coils | .17 ea.        | 5%                          |
| 1234     | Test Plug                     | 3.50           | ea. net                     |

**No. 10-W Central Office Protector**

|      |                               |         |         |
|------|-------------------------------|---------|---------|
| 1110 | Protectors in 10 pr. Sections | \$2.50  | 5%      |
| 1111 | Protectors in 20 pr. Sections | 2.40    | 5%      |
| 1103 | No. 10 Wire Wound Heat Coils  | .15 ea. | 5%      |
| 1106 | Test Plug                     | 2.75    | ea. net |
| 1112 | Resoldering Clamp             | .25     | ea. net |

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**No. H-36 Central Office Protector**

|      |   |        |    |
|------|---|--------|----|
| 1200 | Protectors in 10 pr. Sections with A-45 Wood Fuses        | \$0.65 | 5% |
| 1201 | Protectors in 20 pr. Sections with A-45 Wood Fuses        | .65    | 5% |
| 1202 | Protectors in 10 pr. Sections with A-45 Composition Fuses | .70    | 5% |
| 1203 | Protectors in 20 pr. Sections with A-45 Composition Fuses | .70    | 5% |

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**COOK "L"-9 WALL FRAME**

|      |  |         |     |
|------|--|---------|-----|
| 1050 | 20-pair size without protectors but including line terminals | \$ 9.50 | net |
| 1052 | 40-pair size without protectors but including line terminals | 12.00   | net |
| 1054 | 60-pair size without protectors but including line terminals | 16.00   | net |

The above frame takes No. 10, 10-W, H-36, 100 or 105 protectors. Add price of protectors selected from previous protectors.

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**COOK "L"-10 MAIN DISTRIBUTING FRAME**

|      |                                 |        |     |
|------|---------------------------------|--------|-----|
| 1260 | L-10 Frame 50 pair              | \$0.10 | net |
| 1040 | H-51 Protector 10 Pair Sections | .65    | 5%  |

**RELIABLE NO. 101 MAIN DISTRIBUTING FRAME**

|       |                                      |        |         |
|-------|--------------------------------------|--------|---------|
| 101   | Frame Work only—100 Pair Units       | \$0.14 | net 10% |
| 102-H | Line Cable Terminals—25 Pair Blocks  | .13    | net 10% |
| 101-A | Protectors—Wood Fuses—20 Pair Banks  | .65    | net 10% |
| 101-B | Protectors—Fibre Fuses—20 Pair Banks | .70    | net 10% |

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**ARMS**

| Code No. | Transmitter | Price Each |
|----------|-------------|------------|
| 28       |             | \$ 5.00    |
| 41       |             | .60        |
| 42       |             | .60        |
| 48       |             | 5.00       |
| 50       |             | .90        |
| 39       |             | .60        |
| 32019    | Base        | 75.00 C    |
| 29929    | Support     | 1.50 each  |
| 29927    | Nut         | .10 each   |
| 30403    | Mtg.        | .06 each   |
| 32028    | Tube        | 1.50 each  |
| 29944    | Tube        | 1.00 each  |
| 29940    | Spring      | .20 each   |
| 30402    | Nut         | .06 each   |
| 30404    | Screw       | .05 each   |
| 30598    | Screw       | 1.00 C     |
| 6343     | Washer      | 2.80 C     |
| 4580     | Nut         | .50 C      |

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**ARRESTERS**

| Code No. | Telephone | Price Each |
|----------|-----------|------------|
| 3        |           | \$0.25     |

| Code No. | Price Each | Code No. | Price Each |
|----------|------------|----------|------------|
| 3        | \$0.25     | 15       | \$0.50     |
| 4        | .30        | 18       | .60        |
| 5        | .35        | 19       | .65        |
| 10       | .45        | 23       | .65        |
| 12       | .45        |          |            |

**BARS—DISTRIBUTING BUS (FUSE POSTS)**

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**BELLS—EXTENSION**

**Flat Steel Type—With Condensers**

| Code No. | f. o. b. Chicago, Ill. | f. o. b. Columbus, Ohio | f. o. b. Kansas City, Mo. | f. o. b. San Francisco, Cal. |
|----------|------------------------|-------------------------|---------------------------|------------------------------|
| 63-SA    | \$5.00                 | \$5.15                  | \$5.15                    | \$5.20                       |
| 63-BA    | 5.10                   | 5.25                    | 5.25                      | 5.30                         |
| 63-HA    | 5.50                   | 5.65                    | 5.65                      | 5.70                         |
| 63-HB    | 5.50                   | 5.65                    | 5.65                      | 5.70                         |
| 63-HC    | 5.50                   | 5.65                    | 5.65                      | 5.70                         |

**Flat Steel Type—Without Condensers**

|        |        |        |        |        |
|--------|--------|--------|--------|--------|
| 163-SA | \$4.50 | \$4.65 | \$4.65 | \$4.70 |
| 163-BA | 4.60   | 4.75   | 4.75   | 4.80   |
| 163-HA | 5.00   | 5.15   | 5.15   | 5.20   |
| 163-HB | 5.00   | 5.15   | 5.15   | 5.20   |
| 163-HC | 5.00   | 5.15   | 5.15   | 5.20   |

**Loud Ringing Extension Bells—Wood Type With Condensers**

| Code No. | f. o. b. Chicago, Ill. | f. o. b. Columbus, Ohio | f. o. b. Kansas City, Mo. | f. o. b. San Francisco, Cal. |
|----------|------------------------|-------------------------|---------------------------|------------------------------|
| 47-SA    | \$7.75                 | \$7.90                  | \$7.90                    | \$7.95                       |
| 47-BA    | 7.85                   | 8.00                    | 8.00                      | 8.05                         |
| 47-HA    | 8.25                   | 8.40                    | 8.40                      | 8.45                         |
| 47-HB    | 8.25                   | 8.40                    | 8.40                      | 8.45                         |

| Code No. | f. o. b. Chicago, Ill. | f. o. b. Columbus, Ohio | f. o. b. Kansas City, Mo. | f. o. b. San Francisco, Cal. |
|----------|------------------------|-------------------------|---------------------------|------------------------------|
| 48-SA    | \$7.50                 | \$7.65                  | \$7.65                    | \$7.70                       |
| 48-BA    | 7.60                   | 7.75                    | 7.75                      | 7.80                         |
| 48-HA    | 8.00                   | 8.15                    | 8.15                      | 8.20                         |
| 48-HB    | 8.00                   | 8.15                    | 8.15                      | 8.20                         |

**BELLS—EXTENSION—Continued**

**Loud Ringing Extension Bells—Wood Type Without Condensers**

| Code No. | f. o. b. Chicago, Ill. | f. o. b. Columbus, Ohio | f. o. b. Kansas City, Mo. | f. o. b. San Francisco, Cal. |
|----------|------------------------|-------------------------|---------------------------|------------------------------|
| 147-SA   | \$7.00                 | \$7.15                  | \$7.15                    | \$7.20                       |
| 147-SD   | 7.00                   | 7.15                    | 7.15                      | 7.20                         |

| Code No. | f. o. b. Chicago, Ill. | f. o. b. Columbus, Ohio | f. o. b. Kansas City, Mo. | f. o. b. San Francisco, Cal. |
|----------|------------------------|-------------------------|---------------------------|------------------------------|
| 37-SA    | \$4.50                 | \$4.65                  | \$4.65                    | \$4.70                       |
| 37-SD    | 4.50                   | 4.65                    | 4.65                      | 4.70                         |
| 37-SG    | 4.65                   | 4.80                    | 4.80                      | 4.85                         |
| 37-BA    | 4.60                   | 4.75                    | 4.75                      | 4.80                         |
| 37-HA    | 5.25                   | 5.40                    | 5.40                      | 5.45                         |
| 37-HB    | 5.25                   | 5.40                    | 5.40                      | 5.45                         |

**Oak Cabinet Extension Bells For Magneto Telephone Service**

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**MAGNETO DESK SET BOXES**

|       |         |         |         |         |
|-------|---------|---------|---------|---------|
| F2409 | \$ 9.95 | \$10.15 | \$10.15 | \$10.55 |
| F2328 | 10.45   | 10.65   | 10.65   | 11.05   |
| F2361 | 11.15   | 11.35   | 11.35   | 11.75   |
| F2362 | 11.30   | 11.50   | 11.50   | 11.90   |
| F2363 | 11.05   | 11.25   | 11.25   | 11.65   |
| F2364 | 11.05   | 11.25   | 11.25   | 11.65   |
| F2365 | 11.20   | 11.40   | 11.40   | 11.80   |
| F2366 | 11.35   | 11.55   | 11.55   | 11.95   |
| F2367 | 11.35   | 11.55   | 11.55   | 11.95   |
| F2370 | 11.75   | 11.95   | 11.95   | 12.35   |
| F2371 | 11.90   | 12.10   | 12.10   | 12.50   |
| F2327 | 10.55   | 10.75   | 10.75   | 11.15   |
| F2372 | 10.70   | 10.90   | 10.90   | 11.30   |
| F2410 | 10.70   | 10.90   | 10.90   | 11.30   |
| F2326 | 11.20   | 11.40   | 11.40   | 11.80   |
| F2376 | 12.00   | 12.20   | 12.20   | 12.60   |
| F2374 | 12.25   | 12.45   | 12.45   | 12.85   |
| F2415 | 15.00   | 15.20   | 15.20   | 15.60   |

**GENERATOR—BOXES**

|       |        |        |        |        |
|-------|--------|--------|--------|--------|
| F2420 | \$7.15 | \$7.35 | \$7.35 | \$7.95 |
| F2421 | 7.50   | 7.70   | 7.70   | 8.10   |

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**CABLE—SWITCHBOARD**

**ROUND TYPE—One Silk and One Cotton Enameled Wire Red and White Waxed Braid**

| Code No. | Price Per 100 Ft. |                |                 |
|----------|-------------------|----------------|-----------------|
|          | Less than 100 ft. | 100 to 500 ft. | 500 to 2500 ft. |
| 114-X    | \$12.10           | \$ 9.00        | \$ 8.10         |
| 137-X    | 15.00             | 11.25          | 10.00           |
| 107-X    | 18.75             | 14.25          | 12.65           |
| 22-X     | 29.90             | 22.50          | 20.25           |
| 8-X      | 22.00             | 17.00          | 15.00           |
| 109-X    | 34.00             | 25.60          | 22.75           |
| 29-X     | 49.25             | 37.25          | 32.75           |
| 53-X     | 92.00             | 69.00          | 62.00           |

**Lead Colored Fireproof Paint Over Braid**

|        |         |         |         |
|--------|---------|---------|---------|
| 114-AX | \$12.10 | \$ 9.00 | \$ 8.10 |
| 137-AX | 15.00   | 11.25   | 10.00   |
| 107-AX | 18.75   | 14.25   | 12.65   |
| 22-AX  | 29.90   | 22.50   | 20.25   |
| 8-AX   | 22.00   | 17.00   | 15.00   |
| 109-AX | 34.00   | 25.60   | 22.75   |
| 29-AX  | 49.25   | 37.25   | 32.75   |
| 53-AX  | 92.00   | 69.00   | 62.00   |

**ROUND TYPE—Continued Two Silk and One Cotton Tinned Wire Red and White Waxed Braid**

| Code No. | Price Per 100 Ft. |                |                 |
|----------|-------------------|----------------|-----------------|
|          | Less than 100 ft. | 100 to 500 ft. | 500 to 2500 ft. |
| 65       | \$12.50           | \$ 9.50        | \$ 8.50         |
| 99       | 19.50             | 14.75          | 13.00           |
| 149      | 16.00             | 12.00          | 10.50           |
| 127      | 18.00             | 13.50          | 12.00           |
| 24       | 19.75             | 15.00          | 13.25           |
| 23       | 28.00             | 21.00          | 18.50           |
| 112      | 29.00             | 22.00          | 19.50           |
| 97       | 35.25             | 26.50          | 23.50           |
| 63       | 46.00             | 34.50          | 31.00           |
| 62       | 100.00            | 77.00          | 69.00           |

**Lead Colored Fireproof Paint Over Braid**

|       |         |         |         |
|-------|---------|---------|---------|
| 65-A  | \$12.50 | \$ 9.50 | \$ 8.50 |
| 99-A  | 19.50   | 14.75   | 13.00   |
| 149-A | 16.00   | 12.00   | 10.50   |
| 127-A | 18.00   | 13.50   | 12.00   |
| 42-A  | 19.75   | 15.00   | 13.25   |
| 41-A  | 28.00   | 21.00   | 18.50   |
| 112-A | 29.00   | 22.00   | 19.50   |
| 125-A | 35.25   | 26.50   | 23.50   |
| 63-A  | 46.00   | 34.50   | 31.00   |
| 62-A  | 100.00  | 77.00   | 69.00   |

**FLAT TYPE—One Silk and One Cotton Enameled Wire**

| Code No. | Price Per 100 Ft. |                |                 |
|----------|-------------------|----------------|-----------------|
|          | Less than 100 ft. | 100 to 500 ft. | 500 to 2500 ft. |
| 49-X     | \$21.25           | \$16.25        | \$14.50         |
| 104-X    | 37.00             | 28.00          | 25.00           |
| 138-X    | 32.00             | 23.75          | 21.00           |
| 139-X    | 32.00             | 23.75          | 21.00           |
| 140-X    | 32.00             | 23.75          | 21.00           |
| 49-AX    | 21.25             | 16.25          | 14.50           |
| 104-AX   | 37.00             | 28.00          | 25.00           |
| 138-AX   | 32.00             | 23.75          | 21.00           |
| 139-AX   | 32.00             | 23.75          | 21.00           |
| 140-AX   | 32.00             | 23.75          | 21.00           |

**LEAD COVERED Two Silk and One Cotton Tinned Wire Round Type Wax Core**

|       |            |         |         |   |
|-------|------------|---------|---------|---|
| 148-L | 1/16" Lead | \$22.00 | \$17.00 | * |
| 144-L | 1/16" Lead | 26.00   | 20.00   | * |
| 121   | 1/16" Lead | 28.50   | 21.50   | * |
| 147-L | 1/16" Lead | 34.00   | 24.50   | * |
| 146-L | 3/64" Lead | 60.00   | 45.00   | * |
| 145-L | 3/32" Lead | 113.00  | 84.50   | * |
| 120-L | 1/16" Lead |         |         |   |

11 Pair No. 22 B & S Ga. 2S and 1C. 24.50 18.50 \*

\*Prices on application.

The above prices are net f. o. b. Chicago and not subject to discount.

KELLOGG SWITCHBOARD AND SUPPLY COMPANY, CHICAGO

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**CABLE—POWER**

| Code No. | Tinned Wire Price Per 100 Ft. |                |                 |
|----------|-------------------------------|----------------|-----------------|
|          | Less than 100 ft.             | 100 to 500 ft. | 500 to 2500 ft. |
| 71       | \$ 3.50                       | \$ 2.75        | \$ 2.40         |
| 72       | 6.50                          | 5.00           | 4.35            |
| 101      | 6.00                          | 4.50           | 4.00            |
| 102      | 6.25                          | 4.75           | 4.25            |
| 103      | 7.20                          | 5.40           | 4.80            |
| 59       | 11.50                         | 8.65           | 7.75            |
| 66       | 21.50                         | 16.15          | 14.50           |
| 105      | 15.00                         | 11.25          | 10.00           |
| 105-L    | 35.00                         | 27.50          | *               |
| 122      |                               |                | *               |
| 122-L    |                               |                | *               |
| 59-L     | 23.50                         | 18.50          | *               |

\*Price on application.

**Enameled Wire**

| Code No. | Less than 100 ft. | 100 to 500 ft. | 500 to 2500 ft. |
|----------|-------------------|----------------|-----------------|
| 71-X     | \$ 4.25           | \$ 3.25        | \$ 3.00         |
| 72-X     | 7.50              | 5.75           | 5.00            |
| 101-X    | 6.90              | 5.25           | 4.60            |
| 102-X    | 7.15              | 5.45           | 4.90            |
| 103-X    | 8.30              | 6.25           | 5.55            |

Page 421 **LAMP CAPS**

| Code No. | Price Each | f. o. b. Chicago, Ill. |
|----------|------------|------------------------|
| 25       | \$0.10     |                        |
| 27       | .10        |                        |
| 154      | .10        |                        |
| 154-G    | .10        |                        |
| 154-D    | .10        |                        |
| 154-H    | .10        |                        |
| 154-J    | .10        |                        |
| 154-K    | .10        |                        |
| 154-L    | .10        |                        |
| 154-M    | .10        |                        |
| 154-F    | .10        |                        |
| 154-U    | .10        |                        |
| 154-V    | .10        |                        |
| 154-W    | .10        |                        |
| 79       | .10        |                        |
| 79-A     | .10        |                        |
| 79-E     | .10        |                        |
| 79-G     | .10        |                        |
| 79-K     | .10        |                        |
| 62-F     | .10        |                        |
| 62-H     | .10        |                        |
| 62-J     | .10        |                        |
| 9        | .20        |                        |
| 9-A      | .20        |                        |
| 9-B      | .20        |                        |
| 9-C      | .20        |                        |
| 9-D      | .20        |                        |
| 74       | .35        |                        |
| 75       | .35        |                        |

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**COILS INDUCTION**

|      |        |
|------|--------|
| 28-C | \$0.75 |
| 41-C | .75    |
| 85-C | 1.85   |
| 51-A | 1.00   |
| 79-A | 1.00   |
| 90-A | 5.25   |
| 7-D  | 2.10   |
| 81-A | 1.40   |

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|      |        |
|------|--------|
| 5-A  | \$1.95 |
| 7-A  | 2.10   |
| 32-A | 2.25   |
| 32-B | 2.25   |
| 17-A | 2.75   |
| 17-B | 2.75   |
| 72-A | 2.25   |
| 35-A | 8.50   |
| 66-A | 1.75   |

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**COILS—Continued**

| Code No. | Price Each |
|----------|------------|
| 3-A      | \$5.50     |
| 4-A      | 5.50       |

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**REPEATING**

|      |         |
|------|---------|
| 16-A | \$ 4.50 |
| 17-F | 6.50    |
| 18-B | 13.50   |
| 19-A | 4.00    |
| 20-A | 4.00    |

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|      |         |
|------|---------|
| 18-A | \$11.75 |
|------|---------|

**RESISTANCE**

|     |        |
|-----|--------|
| 1-A | \$0.65 |
| 1-B | .65    |
| 1-C | .65    |
| 1-D | .65    |
| 1-E | .65    |
| 1-F | .65    |
| 1-G | .80    |
| 1-H | .65    |
| 1-J | .65    |
| 1-K | .65    |
| 1-L | .65    |
| 1-M | .70    |
| 1-N | 1.00   |
| 1-P | .85    |
| 1-Q | .65    |
| 1-R | 1.00   |
| 1-S | .65    |
| 1-T | .65    |
| 1-U | 1.00   |

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|      |        |
|------|--------|
| 4-A  | \$0.75 |
| 4-B  | .75    |
| 4-C  | .75    |
| 4-D  | .75    |
| 4-E  | .75    |
| 4-F  | .75    |
| 4-G  | .90    |
| 4-H  | .75    |
| 4-J  | 1.00   |
| 4-K  | .75    |
| 4-L  | 1.00   |
| 4-M  | .80    |
| 4-N  | .90    |
| 5-A  | 1.00   |
| 29   | 9.25   |
| 30-A | .75    |
| 31-A | .65    |
| 32-A | .65    |

**RETARDATION**

Prices on retardation coils do not include mountings. Mounting strips ordered will be entered as separate items and priced accordingly.

|      |         |
|------|---------|
| 8-A  | \$ 1.50 |
| 8-B  | 1.75    |
| 8-C  | 1.75    |
| 8-D  | 1.75    |
| 8-E  | 1.75    |
| 8-F  | 1.75    |
| 8-G  | 1.75    |
| 8-H  | 1.75    |
| 9-A  | .75     |
| 9-B  | .75     |
| 9-C  | .75     |
| 10-A | .85     |
| 10-B | .85     |
| 10-C | .85     |
| 10-D | 1.25    |
| 10-E | .85     |

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**COILS—Continued RETARDATION**

| Code No. | Price Each |
|----------|------------|
| 10-F     | \$1.25     |
| 10-G     | .85        |
| 10-H     | .85        |
| 10-J     | 1.25       |
| 10-K     | .85        |
| 10-L     | .85        |
| 10-M     | .85        |
| 10-N     | .85        |
| 10-P     | .85        |
| 11-A     | 10.00      |

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|      |         |
|------|---------|
| 14-A | \$ 1.25 |
| 14-B | 1.15    |
| 14-C | 1.15    |
| 14-D | 1.15    |
| 14-E | 1.25    |
| 14-F | 1.15    |
| 14-G | 1.25    |
| 16-A | .50     |
| 16-B | .50     |
| 18-A | .70     |
| 21-A | 1.50    |
| 21-B | 1.50    |
| 21-C | 1.50    |
| 21-D | 1.75    |
| 21-E | 1.50    |
| 21-F | 1.50    |
| 21-G | 1.50    |
| 21-H | 1.75    |
| 21-J | 1.50    |
| 21-K | 1.75    |
| 21-L | 1.50    |
| 22-A | 1.50    |
| 22-B | 1.50    |
| 22-C | 1.50    |
| 22-D | 1.50    |
| 22-E | 1.50    |
| 23-A | 7.50    |
| 23-B | 10.00   |
| 25-A | 1.50    |
| 25-B | 2.00    |
| 25-C | 1.25    |
| 28-A | 7.25    |
| 28-B | 7.00    |
| 29-A | 20.00   |
| 29-B | 20.00   |
| 29-C | 20.00   |
| 29-D | 20.00   |

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|      |         |
|------|---------|
| 30-A | \$ 1.25 |
| 30-B | 1.25    |
| 30-C | 1.25    |
| 30-D | 1.25    |
| 30-E | 1.25    |
| 30-F | 1.25    |
| 30-G | 1.25    |
| 31-A | 7.00    |
| 34-A | 1.75    |
| 35-A | 7.50    |
| 36-A | 24.00   |
| 36-B | 22.00   |
| 40-A | 4.25    |
| 40-B | 4.75    |
| 41-A | 3.75    |
| 42-A | 1.00    |
| 43-A | 1.50    |
| 44-A | 7.00    |
| 44-B | 7.00    |
| 45-A | 4.50    |
| 55-A | 30.00   |
| 56-A | 4.85    |
| 58-A | .85     |

KELLOGG SWITCHBOARD AND SUPPLY COMPANY, CHICAGO

**Page 429 CONDENSERS FOR TELEPHONES SWITCHBOARDS AND GENERAL USE**

| Code No. | Price Each | Code No. | Price Each |
|----------|------------|----------|------------|
| 28       | \$0.60     | 105      | \$0.85     |
| 10       | .60        | 99       | .85        |
| 20       | .60        | 23       | .85        |
| 77       | .60        | 13       | 1.00       |
| 12       | .75        | 30       | 1.00       |
| 16       | .95        | 19       | 1.40       |
| 41       | .85        | 58       | 1.50       |
| 90       | 1.15       | 37       | .85        |
| 110      | 1.15       | 68       | .85        |
| 78       | .85        | 67       | .85        |
| 62       | 1.15       | 66       | 1.15       |
| 103      | .85        | 64       | 1.25       |
| 53       | 1.15       | 32       | .60        |
| 96       | 1.15       | 34       | 1.15       |

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|     |        |     |        |
|-----|--------|-----|--------|
| 36  | \$1.15 | 17  | \$0.85 |
| 54  | 1.15   | 31  | .85    |
| 57  | .85    | 118 | 1.25   |
| 101 | .85    | 102 | 2.25   |
| 65  | 1.50   | 108 | 5.00   |
| 24  | 1.50   | 128 | 2.10   |
| 25  | 1.30   |     |        |

Discounts on above: Less than 25, Net; 25 and over, 10 per cent.

**CONDENSER MOUNTING BRACKETS**

| Pc. No. | Price Per 100 | Pc. No. | Price Per 100 |
|---------|---------------|---------|---------------|
| 1288    | \$ 2.25       | 5771    | \$ 2.60       |
| 3982    | 10.00         | 10638   | 4.00          |
| 4854    | 2.85          | 27928   | 4.00          |
| 8261    | 8.40          |         |               |

**Page 432 CORDS DESK STAND**

| Code No. | Price Per 100 | With Green Silk Overall Price | With Brown Merc. Cotton Overall Price |
|----------|---------------|-------------------------------|---------------------------------------|
| F100-D   | \$40.00       | \$38.00                       |                                       |
| 100-D    | 40.00         | 38.00                         |                                       |
| 516-D    |               | 56.25                         |                                       |
| 511-D    | 40.00         | 38.00                         |                                       |
| 581-D    | 40.00         | 38.00                         |                                       |

The above prices are net and not subject to discount.

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|        |         |         |
|--------|---------|---------|
| F150-D | \$65.00 | \$56.00 |
| 150-D  | 65.00   | 56.00   |
| F452-D | 65.00   | 56.00   |
| F479-D | 65.00   | 56.00   |
| F636-D | 65.00   | 56.00   |

| Code No. | Price Per 100 | Black and Maroon Merc. Cotton Overall Price |
|----------|---------------|---|
| F502-RD  |               | \$69.00                                     |

The above prices are net and not subject to discount.

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|        |         |         |
|--------|---------|---------|
| F102-D | \$83.00 | \$72.00 |
| 102-D  | 83.00   | 72.00   |
| 487-D  | 83.00   | 72.00   |

| Code No. | Price Per 100 | Black and Maroon Merc. Cotton Overall Price |
|----------|---------------|---|
| 241-RD   |               | \$93.00                                     |
| 566-RD   |               | 93.00                                       |

The above prices are net and not subject to discount.

**Page 435 CORDS—Continued**

**DESK STAND**

| Code No. | Price Per 100 | With Green Silk Overall Price | With Brown Merc. Cotton Overall Price |
|----------|---------------|-------------------------------|---------------------------------------|
| 103-D    | \$95.00       | \$84.00                       |                                       |
| F104-D   |               | 95.00                         |                                       |
| F105-D   |               | 150.00                        |                                       |

**Grabaphone Cords**

|        |         |
|--------|---------|
| 455-G  | \$47.00 |
| 454-G  | 62.00   |
| F454-G | 62.00   |

The above prices are net and not subject to discount.

**Page 436 OPERATORS'**

| Code No. | Price Per 100 | With Green Silk Overall Price |
|----------|---------------|-------------------------------|
| 110-OR   | \$40.00       |                               |
| 26-OR    | 66.00         |                               |
| 237-OR   | 49.00         |                               |
| 489-OR   | 71.00         |                               |

The above prices are net and not subject to discount.

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|       |          |
|-------|----------|
| 111-O | \$ 86.00 |
| 433-O | 120.00   |
| 439-O | 100.00   |
| 239-O | 94.00    |
| 240-O | 105.00   |
| 67-O  | 95.00    |

| Code No. | Price Per 100 | With Green Silk Overall Price |
|----------|---------------|-------------------------------|
| 442-O    | \$165.00      |                               |

The above prices are net and not subject to discount.

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|        |          |
|--------|----------|
| 481-O  | \$ 95.00 |
| 140-O  | 120.00   |
| 464-O  | 95.00    |
| 468-OR | 42.50    |

| Code No. | Price Per 100 | Black and Maroon Cotton Braid Overall Price |
|----------|---------------|---|
| 503-RO   | \$160.00      |   |
| 504-RO   | 125.00        |   |

The above prices are net and not subject to discount.

**Page 439 RECEIVER**

| Code No. | Price Per 100 | With Green Silk Overall Price | With Brown Merc. Cotton Overall Price |
|----------|---------------|-------------------------------|---------------------------------------|
| F98-TR   | \$27.50       | \$23.50                       |                                       |
| 98-TR    | 27.50         | 23.50                         |                                       |
| 508-TR   |               | 21.75                         |                                       |
| 27-TR    | 27.50         | 24.50                         |                                       |
| 196-TR   | 28.25         | 26.25                         |                                       |
| 90-TR    |               | 26.25                         |                                       |
| 197-TR   | 27.50         | 26.25                         |                                       |

The above prices are net and not subject to discount.

**Page 440 CORDS—Continued**

**RECEIVER**

| Code No. | Price Per 100 | With Green Silk Overall Price | With Brown Merc. Cotton Overall Price |
|----------|---------------|-------------------------------|---------------------------------------|
| 495-TR   |               | \$26.25                       |                                       |
| 179-TR   |               | 28.00                         |                                       |
| 207-TR   | \$27.50       | 24.00                         |                                       |
| 162-OR   | 55.00         |                               |                                       |

| Code No. | Price Per 100 | Black and Maroon Cotton Braid Overall Price Per 100 |
|----------|---------------|---|
| 242-RTR  |               | \$28.00   |
| 248-RTR  |               | 26.25   |
| 415-RTR  |               | 28.00   |
| 427-RTR  |               | 28.00   |

The above prices are net and not subject to discount.

**Page 441 SWITCHBOARD**

| Code No. | Lengths             | Price Ea. |
|----------|---------------------|-----------|
| 310-ST   | 36" 48" 60" 72"     | *         |
| 311-ST   |                     | *         |
| 313-TO   |                     | *         |
| 318-TO   |                     | *         |
| 304-ST   | .48 1/2 .57 .65 .75 |           |
| 323-ST   |                     | *         |
| 305-ST   |                     | *         |
| 331-ST   |                     | *         |
| 357-ST   |                     | *         |
| 350-ST   |                     | *         |
| 360-ST   |                     | *         |
| 308-ST   |                     | *         |
| 353-ST   |                     | *         |
| 301-TO   | .43 .49 .56 .65     |           |
| 324-TO   | .43 .49 .56 .65     |           |

Discounts on above: Less than 100, Net; 100 to 249, 5 per cent; 250 and over, 10 per cent.

\*Price on application.

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| Code No. | Lengths           | Price Ea. |
|----------|-------------------|-----------|
| 303-ST   | .75 .87 1.11 1.29 |           |
| 358-ST   |                   | *         |
| 325-ST   | .75 .87 1.11 1.29 |           |
| 309-TO   | .65 .73 .97 1.10  |           |
| 326-TO   | .65 .73 .97 1.10  |           |

Discounts on above: Less than 100, Net; 100 to 249, 5 per cent; 250 and over, 10 per cent.

**TRANSMITTER**

| Code No. | Price Per 100 | With Green Silk Overall Price |
|----------|---------------|-------------------------------|
| 261-OT   | \$29.25       | \$29.25                       |
| 465-OT   | 20.25         | 20.25                         |
| 485-OT   | 28.75         | 28.75                         |
| 505-OT   | 16.50         | 16.50                         |
| 494-OT   | 21.50         | 21.50                         |
| 499-OT   | 20.25         | 20.25                         |

The above prices are net and not subject to discount.

**CORDAGE Telephone Transmitter**

| Code No. | Per Lb. |
|----------|---------|
| F137     | \$0.85  |

Blue-red glazed cotton braid stranded copper conductor. Approx. 5.614 pounds per 1,000 feet. Not listed in Catalog.

\*Price on application.

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**CORD TIPS**

| Piece No. | Price Per 100 | Piece No. | Price Per 100 |
|-----------|---------------|-----------|---------------|
| 151       | \$0.90        | 17132     | \$ 1.00       |
| 1813      | 1.05          | 17344     | 1.00          |
| 1931      | .95           | 17346     | 1.00          |
| 2734      | .50           | 31061     | .50           |
| 2749      | 1.00          | 31070     | 1.10          |
| 2986      | 1.00          | 33563     | .50           |
| 3477      | 1.95          | 33566     | 1.15          |
| 4928      | .50           | 33569     | 2.00          |
| 5006      | .80           | 33574     | 2.75          |
| 6028      | .50           | 33584     | 1.70          |
| 6069      | .90           | 33586     | 3.15          |
| 11192     | 1.50          | 33588     | 2.10          |
| 11196     | 1.75          | 33692     | .50           |
| 12129     | 1.25          | 34603     | 10.00         |
| 12925     | 1.00          | 7625      | 1.50          |
| 14846     | 2.00          |           |               |

Less than 100, list.  
100 to 999, 10%  
1000 and over, 20%.

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**CUT IN STATIONS AND KEY BOXES**

| Code No.                   | Price Each |
|----------------------------|------------|
| 3 Key box with No. 216 key | \$4.50     |
| 4 Key box with No. 28 key  | 2.25       |

**Cut-in Stations**  
No. 5.....Price on application  
Not listed in Cat. No. 7  
No. 8 Key Box with No. 1028  
Key for 2 lines.....\$4.50

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**DROPS AND JACKS**

**Combined**  
Shutter for 301 and 300 Type Drops

| Piece No. | Shutter         | Set of Three |
|-----------|-----------------|--------------|
| 39454     | Shutter         | \$0.15       |
| 39458     | Shutter Support |              |
| 39459     | Insulation      |              |

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**COMBINED DROPS AND JACKS**

| Code No. | Price Each | Code No. | Price Each |
|----------|------------|----------|------------|
| 300-A    | \$3.00     | 301-A    | \$2.75     |
| 300-C    | 3.10       | 301-C    | 2.85       |
| 300-E    | 3.05       | 301-E    | 2.80       |

**SINGLE WOUND COILS**

| Ohms. | Price Each | Ohms. | Price Each |
|-------|------------|-------|------------|
| 100   | \$0.80     | 200   | \$0.85     |
| 350   | .85        | 150   | .80        |
| 500   | .95        | 300   | .85        |
| 800   | 1.05       | 80    | .75        |
| 1000  | 1.10       | 250   | .85        |
| 1200  | 1.15       | 750   | 1.00       |
| 1600  | 1.20       | 120   | .80        |
| 480   | .95        | 600   | 1.00       |

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**DROPS—RING OFF**

| Code No. | Price Each | Code No. | Price Each |
|----------|------------|----------|------------|
| 50-A     | \$1.90     | 51-A     | \$1.65     |
| 50-B     | 2.15       | 51-B     | 1.90       |
| 50-C     | 2.20       | 51-E     | 1.80       |
| 50-E     | 2.05       | 51-G     | 1.70       |
| 50-G     | 1.95       | 51-L     | 1.70       |
| 50-L     | 1.95       |          |            |

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**DROPS—RING OFF—Cont'd**  
**COILS FOR RING OFF DROPS**

| Ohms. | Coils, Price, Ea. | Ohms. | Coils, Price, Ea. |
|-------|-------------------|-------|-------------------|
| 100   | \$0.80            | 200   | \$0.85            |
| 350   | .85               | 150   | .80               |
| 500   | .95               | 300   | .85               |
| 1000  | 1.10              | 80    | .75               |
| 1600  | 1.20              | 250   | .85               |
| 800   | 1.05              | 750   | 1.00              |
| 1200  | 1.15              | 120   | .80               |
| 480   | .95               |       |                   |

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**ESCUTCHEONS**

For 1000 Type Keys

| Code No. | Price Each | Code No.      | Price Each |
|----------|------------|---------------|------------|
| 1000     | \$0.75     | 1036          | \$1.25     |
| 1001     | .25        | 1037          | 1.25       |
| 1002     | .55        | 1040          | 1.00       |
| 1003     | .25        | 1041          | 1.00       |
| 1004     | .55        | 1043          | .75        |
| 1010     | .25        | 1051          | 1.25       |
| 1011     | .25        | 1053          | .25        |
| 1012     | .25        | 1054          | .25        |
| 1013     | .25        | 1055          | .25        |
| 1014     | .75        | 1057          | .75        |
| 1015     | .25        | 1059          | 1.00       |
| 1016     | .25        | 1065          | .75        |
| 1021     | .15        | 1070          | 1.00       |
| 1026     | .25        | 1071          | .75        |
| 1030     | 1.00       | 1049, Used on |            |
| 1031     | 1.00       | W. E. Boards  | 2.00       |
| 1032     | 1.25       |               |            |

For 1000 Type—4 Party and Cam Keys

|      |        |      |        |
|------|--------|------|--------|
| 1106 | \$1.00 | 1031 | \$1.00 |
| 0138 | 1.00   | 1072 | 1.00   |

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For 1000 Type—4 Party and Cam Keys

|      |        |      |        |
|------|--------|------|--------|
| 1008 | \$0.75 | 1024 | \$0.35 |
| 1009 | .75    | 1033 | .75    |
| 1020 | 1.00   | 1034 | .75    |
| 1023 | 1.00   |      |        |

**Blank**

|     |        |     |        |
|-----|--------|-----|--------|
| 224 | \$0.20 | 257 | \$0.50 |
| 225 | .20    | 258 | .35    |
| 226 | .50    | 261 | .35    |
| 227 | .20    | 262 | .50    |
| 241 | .35    | 263 | .50    |
| 250 | .35    | 264 | .35    |
| 251 | .50    | 268 | .35    |
| 252 | .20    | 269 | .35    |
| 255 | .75    | 270 | .50    |
| 256 | .50    | 309 | .35    |

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**FASTENERS**

Cord

|   |        |   |        |
|---|--------|---|--------|
| 4 | \$0.05 | 5 | \$0.05 |
|---|--------|---|--------|

Discounts

|                       |     |
|-----------------------|-----|
| Lots of 100 and over  | 10% |
| Lots of 1000 and over | 20% |

**GENERATORS**

Telephone Type

|    |        |    |        |
|----|--------|----|--------|
| 15 | \$5.50 | 53 | \$6.00 |
| 22 | 5.80   | 59 | 6.25   |
| 26 | 6.05   | 66 | 5.75   |
| 31 | 5.75   | 75 | 8.00   |

Switchboard Type

|    |        |    |        |
|----|--------|----|--------|
| 61 | \$5.80 | 72 | \$6.00 |
| 63 | 6.00   | 78 | 6.50   |
| 64 | 5.50   |    |        |

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**HEAT COILS**

| Code No. | Price Each |
|----------|------------|
| 2        | \$0.15     |
| 6        | .16        |

**HOOKS—CORD**

Individual Type

|   |                   |
|---|-------------------|
| 1 | Replaced by No. 2 |
| 2 | \$0.03            |

Strip Type

Prices on Application

**HOWLERS**

|   |         |
|---|---------|
| 2 | \$12.75 |
| 4 | 5.50    |

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**JACKS**

INDIVIDUAL LAMP

|                 |        |
|-----------------|--------|
| 39              | \$0.25 |
| 39 100 and over | .20    |

5 Per Strip

Type

| Type    | Price Strip |
|---------|-------------|
| 9 Tran  | \$2.50      |
| 37 Line | 2.50        |

10 Per Strip

|         |        |
|---------|--------|
| 15 Line | \$3.50 |
| 23 Tran | 3.50   |
| 31 Line | 3.50   |
| 33 Line | 3.50   |
| 34 Line | 3.50   |

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20 Per Strip

|         |        |
|---------|--------|
| 25 Line | \$5.00 |
| 32 Line | 5.00   |
| 35 Line | 5.00   |
| 36 Line | 5.00   |
| 41 Line | 5.00   |

**INDIVIDUAL SPRING**

2 Cond.

| Fits Plug | No.           | Price Each |
|-----------|---------------|------------|
| 25        | No. 42        | \$0.75     |
| 53        | No. 17-44-152 | 1.00       |
| 61        | No. 42        | 1.00       |
| 85        | No. 55        | .75        |
| 87        | No. 55        | 1.00       |
| 88        | No. 26        | .50        |
| 98        | No. 55        | 1.00       |
| 99        | No. 26        | .75        |
| 207       | No. 42        | .75        |
| 208       | No. 128       | .75        |
| 209       | No. 17-44-152 | .75        |
| 237       | No. 42        | 1.00       |
| 277       | No. 42        | 1.00       |
| 301       | No. 42        | 1.00       |

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Individual—2 Cond.

|     |        |      |
|-----|--------|------|
| 302 | \$1.50 |      |
| 315 | No. 42 | 1.50 |
| 316 | No. 42 | 1.50 |
| 319 | No. 42 | 1.00 |

5 Per Strip—2 Cond.

|     |           |        |
|-----|-----------|--------|
| 215 | No. 42-55 | \$5.00 |
| 225 | No. 42-55 | 5.00   |
| 227 | No. 42-55 | 3.00   |
| 238 |           | 5.00   |

10 Per Strip—2 Cond.

|     |        |        |
|-----|--------|--------|
| 129 | No. 55 | \$6.00 |
| 132 | No. 55 | 8.00   |
| 151 | No. 55 | 5.50   |
| 163 |        | 5.00   |
| 186 |        | 5.00   |
| 195 |        | 5.00   |
| 201 |        | 4.00   |

KELLOGG SWITCHBOARD AND SUPPLY COMPANY, CHICAGO

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**JACKS—Continued**  
**SPRING**  
**10 Per Strip—2 Cond.**

| Code No. | Fits Plug | Price Strip |
|----------|-----------|-------------|
| 240      |           | \$ 4.00     |
| 255      | No. 55    | 10.00       |
| 283      | No. 55    | 5.00        |

**20 Per Strip—2 Cond.**

|     |         |         |
|-----|---------|---------|
| 45  |         | \$ 5.00 |
| 116 | No. 55  | 5.50    |
| 122 |         | 10.00   |
| 126 |         | 10.00   |
| 211 | No. 55  | 6.00    |
| 247 | No. 55  | 6.50    |
| 281 | No. 128 | 5.50    |

**Individual—3 Cond.**

| Code No. | Fits Plug     | Price Each |
|----------|---------------|------------|
| 94       | No. 17-44-152 | \$0.75     |
| 100      | No. 17-44-152 | 1.50       |
| 229      | No. 17-44-152 | 1.00       |
| 254      | No. 77        | 1.00       |
| 260      | No. 106       | 2.10       |
| 286      |               | 7.75       |

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**Individual—3 Cond.**

|     |           |        |
|-----|-----------|--------|
| 298 | No. 16-44 | \$1.00 |
| 299 | No. 16-44 | .90    |
| 303 |           | 1.00   |
| 304 |           | 1.50   |
| 311 | No. 137   | 1.00   |
| 332 |           |        |

**5 Per Strip—3 Cond.**

| Code No. | Fits Plug     | Price Strip |
|----------|---------------|-------------|
| 152      | No. 17-44-152 | \$4.00      |
| 205      | No. 17-44-152 | 3.50        |
| 223      | No. 17-44-152 | 3.00        |
| 296      | No. 106       | 5.50        |
| 297      |               | 4.00        |
| 309      | No. 106       | 7.00        |
| 318      |               | 5.50        |

**10 Per Strip—3 Cond.**

|     |               |        |
|-----|---------------|--------|
| 141 | No. 17-44-152 | \$4.00 |
| 147 | No. 17-44-152 | 8.50   |
| 149 | No. 17-44-152 | 5.00   |
| 191 | No. 17-44-152 | 8.00   |
| 202 |               | 8.00   |
| 217 |               | 8.50   |
| 218 | No. 17-44-152 | 6.50   |

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**10 Per Strip—3 Cond.**

|     |               |        |
|-----|---------------|--------|
| 232 | No. 17-44-152 | \$5.50 |
| 244 | No. 152       | 8.00   |
| 251 | No. 17-44-152 | 5.50   |
| 252 | No. 152       | 8.00   |
| 253 | No. 77        | 5.00   |
| 259 | No. 106       | 5.50   |
| 267 | No. 106       | 8.00   |
| 269 | No. 106       | 6.50   |
| 271 | No. 106       | 6.50   |
| 273 | No. 106       | 5.00   |
| 274 | No. 77        | 3.50   |
| 282 |               | 7.00   |
| 285 | No. 106       | 8.50   |
| 288 | No. 77        | 8.00   |
| 293 |               | 6.50   |
| 295 |               | 5.00   |
| 324 |               | 8.00   |

**20 Per Strip—3 Cond.**

|     |  |         |
|-----|--|---------|
| 134 |  | \$12.00 |
| 135 |  | 12.00   |
| 146 |  | 6.50    |
| 148 |  | 12.00   |
| 159 |  | 12.00   |

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**JACKS—Continued**  
**SPRING**  
**20 Per Strip—3 Cond.**

| Code No. | Fits Plug     | Price Strip |
|----------|---------------|-------------|
| 230      | No. 17-44-152 | \$6.50      |
| 231      | No. 17-44-152 | 6.50        |
| 239      | No. 77        | 5.50        |
| 257      | No. 77        | 6.00        |
| 258      | No. 106       | 6.50        |
| 261      | No. 106       | 6.50        |
| 268      | No. 106       | 8.00        |
| 270      | No. 106       | 8.00        |
| 272      | No. 106       | 8.00        |
| 292      |               | 6.50        |

**OPERATORS'**

| Code No. | Fits Plug         | Price Each |
|----------|-------------------|------------|
| 24       |                   | \$0.75     |
| 43       |                   | .75        |
| 57       |                   | 1.25       |
| 97       |                   | 1.00       |
| 224      |                   | 1.00       |
| 228      |                   | 1.25       |
| 276      |                   | 1.50       |
| 291      |                   | .75        |
| 310      |                   | 1.50       |
| 325      | Replaced by 325-A |            |
| 325-A    |                   | 1.25       |

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**DUMMY**

| Code No. | Fits Plug | Price Strip |
|----------|-----------|-------------|
| 263      |           | \$0.60      |
| 289      |           | 1.00        |
| 294      |           | .75         |
| 308      |           | .60         |
| 312      |           | .75         |

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**KEYS**  
**CAM**  
**1000 Type**

| Code No. | Fits Plug                           | Price Each |
|----------|-------------------------------------|------------|
| 1001     | Replaces Nos. 126, 170, 174, 291    | \$1.20     |
| 1003     |                                     | 1.80       |
| 1004     | Replaces Nos. 220, 261, 274         | 1.80       |
| 1005     |                                     | 1.20       |
| 1014     |                                     | 1.50       |
| 1017     |                                     | 1.80       |
| 1025     |                                     | 2.10       |
| 1028     | Replaces Nos. 28, 77, 106, 225, 253 | 1.50       |
| 1034     | Replaces Nos. 34, 65, 85, 288       | 2.40       |
| 1035     |                                     | 1.80       |
| 1042     | Replaces Nos. 42, 101, 292          | 1.50       |
| 1069     |                                     | 2.10       |
| 1070     |                                     | 2.40       |
| 1072     |                                     | 1.80       |
| 1083     |                                     | 1.80       |
| 1002     |                                     | 1.70       |
| 1010     | Replaces Nos. 52, 99, 275, 280, 287 | 3.50       |
| 1011     |                                     | 2.90       |
| 1013     | Replaces Nos. 83, 90, 187, 286, 294 | 4.10       |
| 1019     |                                     | 1.70       |
| 1020     |                                     | 1.30       |

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|      |  |        |
|------|--|--------|
| 1030 |  | \$2.30 |
| 1036 | Replaces Nos. 36, 74, 131, 137, 184, 185, 219, 229 | 2.60   |
| 1037 |  | 2.30   |
| 1039 |  | 2.70   |
| 1049 |  | 2.90   |
| 1052 |  | 3.20   |
| 1059 |  | 1.70   |

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**KEYS—Continued**  
**CAM**  
**1000 Type**

| Code No. | Fits Plug                               | Price Each |
|----------|---|------------|
| 1067     |   | \$3.50     |
| 1073     |   | 2.60       |
| 1074     |   | 3.30       |
| 1016     |   | 3.50       |
| 1021     |   | 2.45       |
| 1023     |   | 2.60       |
| 1024     |   | 2.90       |
| 1026     |   | 2.90       |
| 1027     |   | 2.30       |
| 1029     | Replaces Nos. 29, 203, 215, 235         | 2.30       |
| 1032     | Replaces Nos. 32, 39, 55, 144, 214, 245 | 2.60       |
| 1040     |   | 2.75       |
| 1041     |   | 2.00       |
| 1043     |   | 2.30       |
| 1044     | Releases for No. 264 Type Key           | 2.00       |
| 1045     | Releases for No. 264 Type Key           | 1.50       |
| 1046     | Releases for No. 264 Type Key           | 2.30       |
| 1047     | Releases for No. 264 Type Key           | 1.20       |
| 1048     |   | 2.30       |
| 1053     | Releases for No. 264 Type Key           | 1.80       |
| 1054     |   | 2.75       |
| 1057     |   | 2.90       |
| 1058     |   | 3.00       |
| 1062     |   | 2.10       |
| 1063     |   | 2.15       |
| 1076     |   | 3.20       |
| 1084     |   | 2.90       |
| 1089     |   | 2.30       |
| 1000     | Dummy for Restoring Four Party Keys     | 1.00       |
| 1007     |   | 2.10       |
| 1008     |   | 2.00       |
| 1009     |   | 1.80       |
| 1015     | Releases for No. 264 Type Key           | 1.50       |
| 1022     |   | 1.65       |
| 1033     |   | 1.60       |
| 1068     |   | 2.40       |
| 1012     | 1 set of springs has extra make contact | 2.60       |
| 1031     |   | 2.30       |
| 1050     |   | 2.90       |
| 1060     |   | 2.10       |
| 1071     |   | 2.90       |
| 1075     |   | 3.10       |

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**SWITCHBOARD**  
**Four Party Line**

|     |  |        |
|-----|--|--------|
| 264 |  | \$5.50 |
| 265 |  | 5.50   |
| 266 |  | 5.50   |
| 267 |  | 5.50   |
| 270 |  | 5.50   |
| 310 |  | 5.50   |
| 315 |  | 5.50   |
| 317 |  | 3.75   |
| 319 |  | 3.75   |
| 320 |  | 6.50   |
| 321 |  | 3.75   |
| 322 |  | 5.50   |
| 323 |  | 5.50   |
| 324 |  | 6.50   |
| 326 |  | 5.50   |
| 328 |  | 3.75   |

KELLOGG SWITCHBOARD AND SUPPLY COMPANY, CHICAGO

**Page 467 KEYS—Continued**

| Code No. | PUSH BUTTON Strips—Order Wire | Price Per Strip |
|----------|-------------------------------|-----------------|
| 4        |                               | \$ 7.50         |
| 26       |                               | 7.50            |
| 61       |                               | 7.50            |
| 179      |                               | 7.50            |
| 206      |                               | 10.00           |
| 217      |                               | 7.50            |
| 260      |                               | 10.00           |
| 281      |                               | 10.00           |
| 301      |                               | 8.00            |
| 309      |                               | 8.00            |
| 312      |                               | 10.00           |
| 314      |                               | 10.00           |
| 318      |                               | 8.00            |
| 313      |                               | 17.50           |
| 330      |                               | 10.00           |

**Page 468 INDIVIDUAL—ORDER WIRE**

| Code No. | Price Each |
|----------|------------|
| 5        | \$1.45     |
| 24       | 1.80       |
| 60       | 1.75       |
| 66       | 2.15       |
| 68       | 1.75       |
| 93       | 1.00       |
| 121      | 1.75       |
| 162      | 2.00       |
| 163      | 2.00       |
| 167      | 1.75       |
| 172      | 1.75       |
| 254      | 1.75       |
| 255      | 1.75       |
| 273      | 1.50       |
| 296      | 1.80       |
| 300      | 1.50       |
| 302      | 1.75       |
| 303      | 3.00       |
| 269      | 1.50       |

**Page 469 LAMPS SWITCHBOARD**

All lamps in broken packages, less than 100, 35c each.  
 Full packages of 100 and over, 35c each, less 5%.  
 500 and over, less 10%.  
 Rebate of 2c allowed per lamp for lamps of Kellogg make only, provided order for new lamps (at regular prices) is given equivalent to the amount returned for credit.  
 Voltage is designated by figure given in code number, as 24-A is a 24-volt lamp.

**Stand Electric Light Bulb for Use as Ringing Resistance Lamp**

| Code No.               | Price Each |
|------------------------|------------|
| 110-A 110-volt—15 watt | \$0.25     |

**Page 470 PLATES—NUMBER**

| Code No.      | Price Per 100 |
|---------------|---------------|
| 2             | \$0.08        |
| 3             | .08           |
| 5             | .10           |
| 10            | \$ 8.75       |
| 50 to 99      | 6.25          |
| 100 to 199    | 5.00          |
| 200 to 299    | 4.50          |
| 300 to 399    | 4.00          |
| 400 to 499    | 3.60          |
| 500 and over  | 2.50          |
| Single letter | 40.00         |

Note: No. 10 plates with more than 3 figures, more than 1 letter, or a combination of figures and letters is special. Price only on application.

|    |                |        |
|----|----------------|--------|
| 88 | Less than 1000 | \$8.00 |
|    | 1000 and over  | 6.00   |

**Page 471 PLUGS SWITCHBOARD**

| Code No.                               | Price Each |
|--|------------|
| 3-2 Cond.                              | \$0.75     |
| 26-2 Cond.                             | .75        |
| 42-2 Cond. On Combined Drops and Jacks | .75        |
| 44-1 Cond. Test Plug                   | .75        |

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|             |        |
|-------------|--------|
| 13-3 Cond.  | \$1.10 |
| 55-2 Cond.  | .80    |
| 70-2 Cond.  | .80    |
| 82-3 Cond.  | 1.25   |
| 91-3 Cond.  | 1.10   |
| 92-2 Cond.  | .80    |
| 106-3 Cond. | 1.10   |
| 109-2 Cond. | .80    |
| 122-2 Cond. | .80    |
| 130-2 Cond. | .80    |
| 137-3 Cond. | 1.10   |
| 138-2 Cond. | .80    |
| 141-2 Cond. | .80    |
| 144-2 Cond. | 1.15   |
| 165-3 Cond. | 1.10   |
| 168-2 Cond. | .80    |
| 187-2 Cond. | .80    |
| 195-2 Cond. | .80    |
| 211-2 Cond. | .80    |
| 111-3 Cond. | 1.25   |
| 193-2 Cond. | .80    |

**Page 473 OPERATORS'**

|             |        |
|-------------|--------|
| 175-3 Cond. | \$1.25 |
| 176-3 Cond. | 1.75   |
| 177-3 Cond. | 1.75   |
| 185-3 Cond. | 1.25   |
| 191-3 Cond. | 1.25   |
| 199-3 Cond. | 1.10   |
| 201-3 Cond. | 1.10   |
| 202-3 Cond. | 1.25   |
| 194-3 Cond. | 1.25   |

**Page 474 TEST DUMMY**

| Code No.    | Price Per 100 | Price Per 1000 |
|-------------|---------------|----------------|
| 25-4 Cond.  | \$2.50        |                |
| 81-6 Cond.  | 3.70          |                |
| 131-5 Cond. | 1.50          |                |
| 136-4 Cond. | 2.50          |                |
| 139-4 Cond. | 2.50          |                |
| 145-4 Cond. | 1.25          |                |
| 146-4 Cond. | 1.25          |                |
| 182-4 Cond. | 1.25          |                |
| 23-4 Cond.  | \$3.50        |                |
| 190-4 Cond. | 3.50          |                |

**Page 475 PLUGS—Continued DUMMY**

| Code No. | Price Per 100 | Price Per 1000 |
|----------|---------------|----------------|
| 124      | \$10.00       | \$7.50         |
| 132      | 8.25          | 6.25           |

**Page 475 PLUGS—Continued DUMMY**

| Code No. | Price Per 100 | Price Per 1000 | Price Per Lots of 1000 and Over |
|----------|---------------|----------------|---------------------------------|
| 133-B    | \$8.35        |                | \$6.25                          |
| 134-B    | 6.25          |                | 5.25                            |
| 135-B    | 7.50          |                | 5.75                            |
| 142      | 5.00          |                | 3.75                            |
| 149-B    | 7.50          |                | 5.75                            |
| 83       | 1.00          |                | .75                             |
| 84       | 1.00          |                | .75                             |
| 85       | 1.00          |                | .75                             |
| 86       | 1.00          |                | .75                             |
| 87       | 1.00          |                | .75                             |
| 88       | 1.00          |                | .75                             |
| 93       | 5.00          |                | 3.75                            |
| 94       | 5.00          |                | 3.75                            |
| 95       | 5.00          |                | 3.75                            |
| 96       | 5.00          |                | 3.75                            |
| 97       | 5.00          |                | 3.75                            |
| 98       | 5.00          |                | 3.75                            |
| 101      | 1.15          |                | 1.00                            |
| 163      | 7.50          |                | 5.75                            |
| 186      | 1.15          |                | 1.00                            |

**Page 476 POSTS—BINDING**

| Code No. | Price Per 100 |
|----------|---------------|
| 1        | \$ 7.00       |
| 2        | 5.60          |
| 4        | 14.75         |
| 5        | 14.75         |
| 6        | 56.40         |
| 7        | 5.15          |
| 11       | 2.75          |
| 12       | 5.60          |
| 13       | 6.35          |
| 15       | 35.45         |
| 16       | 10.35         |
| 17       | 10.00         |
| 18       | 12.00         |
| 20       | 8.50          |
| 21       | 10.00         |

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|           |         |
|-----------|---------|
| 22        | \$10.35 |
| 25        | 14.25   |
| 26        | 12.25   |
| 29        | 10.50   |
| 31        | 5.60    |
| 33        | 8.25    |
| 40        | 5.75    |
| 41        | 20.00   |
| 44        | 10.35   |
| 59        | 2.75    |
| 60        | 7.75    |
| 61        | 10.25   |
| 63        | 3.50    |
| 65        | 2.50    |
| 66        | 3.60    |
| 67        | 3.50    |
| 68        | 7.50    |
| Pe. 36493 | 12.00   |

**Page 478 PUSH BUTTONS**

| Code No. | Price Each |
|----------|------------|
| 3        | \$1.00     |
| 4        | .75        |
| 5        | .50        |
| 6        | 2.65       |
| 8        | .50        |
| 14       | .75        |

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**RACKS—CONNECTING**

| Code No.                                  | Price Each    |
|---|---------------|
| 1   | \$0.35        |
| 2   | .35           |
| 3   | .35           |
| 4   | .60           |
| 5   | .50           |
| 6   | .50           |
| 7   | .65           |
| 8   | .30           |
| 9   | .45           |
| 10  | .55           |
| 11  | .65           |
| 15  | .25           |
| 16  | .55           |
| 23-A                                      | .60           |
| 23-B                                      | .60           |
| 23-C                                      | .60           |
| Code No.                                  | Price Per 100 |
| Pc. 5034 Connecting Rack for No. 28 Stand | \$20.00       |
| Pc. 5042 Connecting Rack for No. 39 Stand | 25.00         |

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| Code No.     | Price Per 100 |
|--------------|---------------|
| Pc. No. 5307 | \$25.00       |
| Pc. No. 6634 | 20.00         |
| Code No.     | Price Each    |
| 21           | \$7.75        |
| 22           | 5.00          |

**JUNCTION BOXES**

| Code No. | Price Each |
|----------|------------|
| 2505-B   | \$1.05     |
| 2509-B   | 1.85       |
| 2513-B   | 2.70       |
| 2517-B   | 3.55       |
| 2521-B   | 4.35       |
| 2525-B   | 5.20       |

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**RECEIVERS—SUBSCRIBERS**

|       |        |
|-------|--------|
| F41-A | \$2.00 |
| 41-A  | 2.00   |
| F41-B | 2.50   |

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**OPERATORS'**

|                         |        |
|-------------------------|--------|
| 14-A                    | \$2.25 |
| 46-A Less Band and Cord | 2.25   |
| 46-B Less Band and Cord | 2.75   |
| 65-A Less Band and Cord | 2.25   |
| 65-B                    | 2.75   |

**RECEIVER HEAD BANDS**

|    |        |
|----|--------|
| 2  | \$1.00 |
| 3  | 1.75   |
| 12 | .40    |

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**RELAYS—2000 TYPE**

The following relay prices are less coils and covers; add to price of relay less coils, the price of coils used to make price of complete relay.

Mounting strips of 10 and 20 are included in the price of relays provided the 10 per strip mounting is equipped with 7 or more and the 20 per strip equipped with 13 or more. If equipped with less an extra charge will be made for the mounting strips.

Page 484—Continued

**RELAYS—2000 TYPE—Continued**

Add to the price of relay 12½¢ for each relay when furnished with cover. One cover may house two relays.

| Code No. | Price Each | Code No. | Price Each |
|----------|------------|----------|------------|
| 2001     | \$1.25     | 2020     | \$2.25     |
| 2002     | 1.50       | 2021     | 2.50       |
| 2003     | 1.95       | 2025     | 2.50       |
| 2004     | 2.25       | 2028     | 2.25       |
| 2006     | 1.25       | 2034     | 1.65       |
| 2007     | 1.65       | 2036     | 1.35       |
| 2008     | 2.25       | 2063     | 3.00       |
| 2009     | 2.60       | 2065     | 1.75       |
| 2019     | 2.25       | 2075     | 2.00       |

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|      |        |      |        |
|------|--------|------|--------|
| 2005 | \$2.00 | 2045 | \$1.25 |
| 2022 | 1.25   | 2048 | 1.25   |
| 2023 | 2.80   | 2049 | 1.25   |
| 2027 | 2.70   | 2056 | 1.25   |
| 2029 | 1.25   | 2059 | 1.35   |
| 2030 | 1.25   | 2077 | 2.40   |
| 2031 | 2.50   | 2078 | 1.10   |
| 2037 | 1.25   | 2079 | 2.15   |
| 2039 | 2.10   | 2080 | 2.25   |
| 2042 | 2.50   | 2081 | 2.10   |
| 2043 | 1.25   | 2089 | 2.50   |
| 2044 | 1.35   |      |        |

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|      |        |      |        |
|------|--------|------|--------|
| 2017 | \$2.75 | 2066 | \$1.15 |
| 2018 | 2.90   | 2067 | 1.30   |
| 2052 | 4.25   | 2068 | 2.40   |
| 2057 | 2.90   | 2082 | 2.30   |
| 2060 | 3.00   | 2083 | 2.50   |
| 2061 | 2.45   | 2085 | 3.75   |
| 2062 | 1.75   | 2086 | 1.75   |
| 2064 | 1.90   |      |        |

**COILS—RELAY**

|      |        |      |        |
|------|--------|------|--------|
| S-FJ | \$1.75 | S-GN | \$0.90 |
| S-FS | 1.75   | S-BW | .75    |
| S-FU | 1.75   | S-BX | 1.20   |
| S-GC | 1.05   | S-BY | 1.45   |
| S-GM | .85    | S-BZ | 1.00   |

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**Single Wound**

|     |        |      |        |
|-----|--------|------|--------|
| S-D | \$0.80 | S-Z  | \$2.10 |
| S-E | .80    | S-AB | 2.75   |
| S-F | .75    | S-AE | 2.25   |
| S-G | .80    | S-AH | 1.20   |
| S-H | .80    | S-AJ | .85    |
| S-K | .90    | S-AK | .90    |
| S-L | .75    | S-AL | 1.45   |
| S-M | 1.00   | S-AN | .95    |
| S-N | 1.10   | S-AP | 1.05   |
| S-P | 1.10   | S-AQ | 1.20   |
| S-Q | 1.10   | S-AR | 1.15   |
| S-R | 1.10   | S-BC | 1.25   |
| S-S | 1.15   | S-BL | .75    |
| S-U | 1.25   | S-BM | 1.40   |
| S-V | 1.25   | S-BU | 1.30   |
| S-W | 1.50   | S-EB | .75    |
| S-X | 1.80   | S-EQ | .75    |
| S-Y | 1.65   | S-DL | 2.85   |

**Concentric Wound**

|     |        |      |        |
|-----|--------|------|--------|
| C-J | \$0.95 | C-P  | \$1.30 |
| C-K | 1.15   | C-Z  | 1.45   |
| C-M | .90    | C-DG | 1.35   |
| C-N | 1.10   | C-DQ | 1.30   |

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**RELAYS—2000 TYPE—Cont'd**

| Code No. | Price Each | Code No. | Price Each |
|----------|------------|----------|------------|
| P-C      | \$1.00     | P-L      | \$2.20     |
| P-D      | 1.00       |          |            |

**Tandem Wound**

|     |        |      |        |
|-----|--------|------|--------|
| T-C | \$1.20 | T-Z  | \$1.05 |
| T-F | 1.35   | T-AX | 2.85   |
| T-G | 1.10   | T-AT | 1.50   |
| T-J | 1.00   | T-AV | 1.00   |
| T-K | 1.15   | T-BY | 1.30   |
| TM  | 1.20   | T-BM | 1.10   |
| T-R | 1.00   | T-CB | 1.35   |
| T-T | 1.00   | T-CD | 1.80   |
| T-U | 1.25   | T-CE | 1.35   |
| T-Y | 1.35   | T-CN | 1.50   |

**Single Wound**

|      |        |      |        |
|------|--------|------|--------|
| S-CA | \$0.75 | S-CN | \$1.20 |
| S-CB | .80    | S-CP | .80    |
| S-CC | .80    | S-CQ | .80    |
| S-CD | .85    | S-CR | .90    |
| S-CE | .75    | S-CS | .85    |
| S-CF | .85    | S-CT | .80    |
| S-CG | 1.00   | S-CU | 1.55   |
| S-CH | 1.90   | S-CV | .80    |
| S-CJ | 1.00   | S-CW | .75    |
| S-CK | 2.05   | S-CX | .75    |
| S-CL | .90    | S-CY | .80    |
| S-CM | 1.10   | S-CZ | .90    |

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**STRIPS—MOUNTING**

For 2000 Type Relays

| Code No. | Price Per Strip | Code No. | Price Per Strip |
|----------|-----------------|----------|-----------------|
| 1000     | \$2.00          | 1008     | \$8.00          |
| 1001     | 2.80            | 1009     | .75             |
| 1002     | 3.20            | 1012     | .75             |
| 1003     | 4.00            | 1013     | .75             |
| 1004     | 4.00            | 1014     | .75             |
| 1005     | 5.60            | 1015     | 3.20            |
| 1006     | 6.40            | 1016     | 6.40            |
| 1007     | 8.00            |          |                 |

**RELAYS**

No. 10 Type

| Code No. | Price Each | Code No. | Price Each |
|----------|------------|----------|------------|
| 26-A     | \$1.65     | 26-G     | \$1.35     |
| 26-B     | 1.35       | 26-H     | 2.35       |
| 26-C     | 1.75       | 21-A     | 1.75       |
| 26-D     | 1.70       | 21-B     | 1.80       |
| 26-E     | 1.40       | 561-A    | 2.25       |
| 26-F     | 2.25       | 567-A    | 2.65       |

For No. 10 Type Relays

| Code No. | Price Per Strip | Code No. | Price Per Strip |
|----------|-----------------|----------|-----------------|
| 16       | \$3.00          | 375      | \$4.50          |
| 62       | .50             |          |                 |

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|     |        |     |        |
|-----|--------|-----|--------|
| 88  | \$6.60 | 408 | \$7.20 |
| 376 | 6.00   | 459 | 6.00   |
| 377 | 9.00   |     |        |

**LINE RELAYS**

No. 600 Type

Price on Application

**RELAYS**

| Code No. | Price Each | Code No. | Price Each |
|----------|------------|----------|------------|
| 355-A    | \$ 6.50    | 546-C    | \$10.00    |
| 564-A    | 14.75      | 546-D    | 10.50      |
| 546-A    | 8.65       | 555-A    | 8.00       |
| 546-B    | 8.50       |          |            |

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**RINGERS—NON-ADJUSTABLE**  
With Gongs

| Code No. | Price Each |
|----------|------------|
| 78-A     | \$2.00     |
| 78-D     | 2.10       |
| 78-G     | 2.30       |
| 78-H     | 2.30       |

Add to regular price of each complete No. 78 type ringer with cow gongs. \$0.70  
 Add to regular price of each complete No. 78 type ringer with sleigh gongs. 1.30  
 Add to regular price of each complete No. 78 type ringer with tea gongs. .25  
 Add to regular price of each complete No. 78 type ringer with wood gongs. .70

**ADJUSTABLE**

| Code No. | Price Each | Code No. | Price Each |
|----------|------------|----------|------------|
| 79-A     | \$2.10     | 84-D     | 2.10       |
| 79-C     | 1.85       | 84-G     | 2.30       |
| 79-D     | 2.20       | 85-B     | 1.85       |
| 79-F     | 1.85       | 85-C     | 1.85       |
| 79-G     | 2.40       | 86-A     | 2.00       |
| 84-A     | 2.00       | 86-C     | 1.75       |
| 84-C     | 1.75       |          |            |

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**HARMONIC**  
With Gongs

|                                 |        |
|---------------------------------|--------|
| 72-A No. 1, No. 2, No. 3, No. 4 | \$2.75 |
| 73-A No. 1, No. 2, No. 3, No. 4 | 2.75   |
| 74-A No. 1, No. 2               | 2.75   |
| 87-A No. 1, No. 2, No. 3, No. 4 | 2.75   |
| 88-A No. 1, No. 2, No. 3, No. 4 | 2.75   |
| 89-A No. 1, No. 2               | 2.75   |

**VIBRATING**

Price on Application

**RINGERS AND DROPS COMBINED**

|     |         |
|-----|---------|
| 3-A | \$15.25 |
| 3-D | 15.25   |
| 3-E | 15.70   |

For mountings for above, see last column.

**SIGNALS MECHANICAL**

| Code No. | Price Each |
|----------|------------|
| 7-A      | \$2.35     |
| 7-B      | 2.25       |
| 7-C      | 2.25       |
| 7-D      | 2.35       |
| 7-E      | 2.35       |
| 7-F      | 2.45       |
| 7-G      | 2.25       |
| 7-H      | 2.75       |
| 8-A      | 2.20       |
| 8-B      | 2.20       |
| 8-C      | 2.20       |
| 8-D      | 2.20       |
| 8-E      | 2.20       |
| 12-A     | 1.40       |
| 12-B     | 1.40       |
| 12-C     | 1.80       |
| 14-A     | 2.75       |
| 14-B     | 2.75       |

The above price includes the mounting provided a sufficient quantity of mechanical signals are ordered to fill more than one-half of mounting space. If less than one-half mounting capacity is ordered, a charge will be made for the mounting.

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**SEATS—PLUG**

| Code No. | Price Each | Code No. | Price Each |
|----------|------------|----------|------------|
| 1        | \$0.25     | 15       | \$0.50     |
| 2        | .10        | 16       | .50        |
| 3        | .10        | 17       | .10        |
| 4        | .10        | 18       | .10        |
| 5        | .10        | 19       | .10        |
| 6        | .10        | 20       | .50        |
| 7        | .10        | 21       | .15        |
| 8        | .32        | 22       | .25        |
| 9        | .03        | 23       | .50        |
| 10       | .10        | 24       | .50        |
| 11       | .10        | 25       | .50        |
| 12       | .10        | 26       | .35        |
| 13       | .25        | 27       | .50        |
| 14       | .25        |          |            |

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**STRIPS—DESIGNATION**

|    |        |    |        |
|----|--------|----|--------|
| 8  | \$1.25 | 19 | \$1.10 |
| 9  | 1.25   | 20 | .75    |
| 10 | 1.10   | 21 | .75    |
| 12 | 1.25   | 23 | .75    |
| 13 | .75    | 26 | 1.10   |
| 15 | 1.10   | 28 | .75    |
| 16 | 1.10   | 30 | 1.25   |
| 17 | .75    | 33 | 1.10   |
| 18 | .75    |    |        |

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|    |        |    |        |
|----|--------|----|--------|
| 14 | \$0.75 | 34 | \$0.55 |
| 24 | .50    | 35 | .75    |
| 25 | .55    | 38 | .75    |
| 27 | .55    | 39 | .75    |
| 29 | .75    | 40 | .75    |
| 31 | .75    |    |        |

**JUMPER**

| Code No. | Price Per Strip | Code No. | Price Per Strip |
|----------|-----------------|----------|-----------------|
| 1        | \$1.50          | 21       | \$3.00          |
| 2        | 1.50            | 26       | 2.10            |
| 3        | 1.50            | 31       | 1.50            |
| 5        | 2.10            | 35       | 2.75            |
| 6        | 1.50            | 39       | 2.00            |
| 7        | 3.00            | 41       | 2.50            |
| 12       | 1.75            | 43       | 2.35            |
| 16       | 1.55            | 46       | 2.25            |
| 17       | 1.75            | 49       | 3.00            |
| 18       | 1.80            |          |                 |

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|    |        |    |        |
|----|--------|----|--------|
| 8  | \$1.50 | 28 | \$2.70 |
| 10 | 1.55   | 29 | .90    |
| 14 | 2.40   | 30 | 1.90   |
| 19 | 1.80   | 34 | 2.00   |
| 20 | 3.00   | 38 | 3.40   |
| 22 | 3.00   | 40 | 1.90   |
| 23 | 2.40   | 42 | 2.65   |
| 24 | 6.00   | 44 | 2.65   |
| 25 | 4.80   | 50 | 1.50   |
| 27 | 2.10   | 52 | .90    |

**TERMINAL**

|    |      |
|----|------|
| 21 | 2.50 |
|----|------|

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|    |        |    |        |
|----|--------|----|--------|
| 5  | \$2.50 | 35 | \$1.90 |
| 10 | 2.00   | 36 | 1.15   |
| 11 | 1.50   | 39 | 1.90   |
| 14 | 1.50   | 41 | 1.00   |
| 16 | 2.00   | 42 | 1.25   |
| 19 | 2.00   | 43 | 2.00   |
| 22 | 2.00   | 44 | 1.90   |
| 29 | 2.00   | 45 | 1.25   |
| 30 | 1.50   | 46 | 2.50   |
| 31 | 1.00   | 47 | 1.40   |
| 32 | .75    | 48 | 2.00   |
| 33 | 1.50   | 49 | 1.25   |
| 34 | 1.25   |    |        |

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**STRIPS—Continued**

**MOUNTING—Arrester**

| Code No. | Price Per Strip |
|----------|-----------------|
| 229      | \$0.75          |

**Coil—Retardation**

|     |        |     |        |
|-----|--------|-----|--------|
| 85  | \$3.00 | 319 | \$0.20 |
| 163 | 1.50   |     |        |

**Condenser**

|     |        |     |        |
|-----|--------|-----|--------|
| 289 | \$2.00 | 356 | \$0.75 |
| 334 | 2.50   | 370 | 1.65   |
| 335 | 1.00   |     |        |

Page 499 For Condensers

|     |        |     |        |
|-----|--------|-----|--------|
| 371 | \$2.25 | 374 | \$2.85 |
| 372 | 2.55   | 458 | 1.80   |
| 373 | 3.30   |     |        |

**For Drops**

|     |        |     |        |
|-----|--------|-----|--------|
| 117 | \$2.60 | 260 | \$3.00 |
| 118 | 2.60   | 296 | 1.50   |
| 130 | 3.00   | 409 | 2.00   |
| 149 | 1.75   | 427 | 3.00   |
| 259 | 1.50   | 433 | 2.50   |

**Drops and Jacks Combined**

|     |        |     |        |
|-----|--------|-----|--------|
| 93  | \$2.75 | 207 | \$3.00 |
| 114 | 1.25   | 257 | 2.00   |
| 162 | 4.00   | 306 | 1.50   |
| 178 | 2.00   | 395 | 2.25   |

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|     |        |     |      |
|-----|--------|-----|------|
| 258 | \$4.00 | 412 | 4.00 |
| 263 | 4.00   | 425 | 4.00 |
| 294 | 4.00   | 426 | 4.00 |
| 297 | 4.00   | 431 | 4.00 |
| 329 | 4.00   | 448 | 2.00 |
| 333 | 2.00   |     |      |

**Mechanical Signals**

|     |        |     |        |
|-----|--------|-----|--------|
| 139 | \$1.10 | 205 | \$1.10 |
| 145 | .50    | 465 | 3.00   |
| 200 | 1.75   |     |        |

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**Miscellaneous Blanks**

Prices on Application

| <b>Key</b> |        |     |        |
|------------|--------|-----|--------|
| 400        | \$2.00 | 435 | \$1.75 |
| 401        | 2.00   | 453 | 2.00   |
| 402        | 2.00   |     |        |

**Ringer Drop and Jack**

|     |        |
|-----|--------|
| 455 | \$1.05 |
|-----|--------|

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**Meter and Automatic Dial**

Prices on Application

**SWITCHES—HOOK**

| Code No. | Price Each | Code No. | Price Each |
|----------|------------|----------|------------|
| 100      | \$0.50     | 113      | \$0.80     |
| 101      | .80        | 116      | 1.10       |
| 103      | .85        | 123      | 1.10       |
| 105      | .85        |          |            |

**PLUG**

|   |        |   |        |
|---|--------|---|--------|
| 5 | \$1.75 | 7 | \$1.75 |
| 6 | 1.90   |   |        |

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**TOOLS**

|    |        |    |        |
|----|--------|----|--------|
| 1  | \$1.00 | 20 | \$0.50 |
| 3  | 2.00   | 21 | .50    |
| 4  | 1.50   | 22 | .50    |
| 8  | .05    | 24 | .50    |
| 9  | .05    | 25 | .15    |
| 10 | .05    | 27 | .25    |
| 11 | .50    | 28 | 1.00   |
| 12 | .75    | 29 | 1.15   |
| 13 | .75    | 30 | 1.00   |
| 14 | .75    | 31 | 1.00   |
| 15 | .75    | 32 | 3.00   |
| 16 | 1.25   | 33 | 2.50   |
| 17 | 1.25   | 35 | 3.00   |
| 18 | .35    | 36 | 3.00   |
| 19 | .75    | 37 | 1.00   |

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**TOOLS—Continued**

| Code No. | Price Each |
|----------|------------|
| 38.....  | \$0.60     |
| 39.....  | 2.75       |
| 40.....  | 5.00       |
| 41.....  | 5.50       |
| 42.....  | .55        |
| 43.....  | 1.35       |
| 44.....  | 1.35       |
| 45.....  | 6.00       |
| 46.....  | 4.00       |
| 47.....  | 4.00       |
| 48.....  | 4.25       |
| 49.....  | 4.25       |
| 50.....  | 4.50       |
| 51.....  | 3.50       |
| 52.....  | 1.00       |
| 53.....  | 4.00       |
| 54.....  | 3.50       |
| 55.....  | 3.50       |
| 56.....  | 1.20       |
| 57.....  | .15        |
| 59.....  | .10        |

**TRANSFORMERS**

|           |         |
|-----------|---------|
| 1-C.....  | \$20.00 |
| 2-A.....  | 20.00   |
| 3-A.....  | 15.00   |
| 5-D.....  | 20.00   |
| 7-A.....  | 20.00   |
| 9-A.....  | 15.00   |
| 19-A..... | 20.00   |

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**TRANSMITTERS**

For Magneto and Common Battery Telephones

| Code No.    | f. o. b. Chicago, Ill. | Price Each |
|-------------|------------------------|------------|
| 22-C.....   |                        | \$2.00     |
| 22-L.....   |                        | 2.00       |
| 22-LC.....  |                        | 2.00       |
| 23-C.....   |                        | 2.00       |
| 23-L.....   |                        | 2.00       |
| 105-L.....  |                        | 2.00       |
| 105-C.....  |                        | 2.00       |
| 105-LC..... |                        | 2.00       |

When mouthpiece is not desired, deduct 5c.

**No. 64 Type—No Back But With Mouthpiece**

| Code No.   | Price Each |
|------------|------------|
| 32-C.....  | \$1.85     |
| 32-L.....  | 1.85       |
| 32-LC..... | 1.85       |
| 64-C.....  | 1.85       |
| 64-L.....  | 1.85       |
| 64-LC..... | 1.85       |

When mouthpiece is not desired, deduct 5c.

**Grabaphone Type**

| Code No.   | f. o. b. Chicago, Ill. | Price Each |
|------------|------------------------|------------|
| 50-L.....  |                        | \$2.25     |
| 50-C.....  |                        | 2.25       |
| 50-LC..... |                        | 2.25       |
| 58-C.....  |                        | 2.25       |
| 58-L.....  |                        | 2.25       |
| 58-LC..... |                        | 2.25       |

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**TRANSMITTERS—**

Continued

**Operators**

| Code No.               | Price Each |
|------------------------|------------|
| 55-C With Cord.....    | \$2.50     |
| 55-L With Cord.....    | 2.50       |
| 55-LC With Cord.....   | 2.50       |
| 76-C Less Cord.....    | 3.75       |
| 76-L Less Cord.....    | 3.75       |
| 76-LC Less Cord.....   | 3.75       |
| 1076-C Less Cord.....  | 4.00       |
| 1076-LC Less Cord..... | 4.00       |

**Transmitter Backs**

| Piece No.  | Price Each |
|------------|------------|
| 5755.....  | \$0.15     |
| 10259..... | .15        |
| 27505..... | .15        |
| 29748..... | .15        |
| 34155..... | .15        |

**Transmitter Adapters**

|            |        |
|------------|--------|
| 5742.....  | \$0.10 |
| 6689.....  | .25    |
| 8274.....  | .15    |
| 8545.....  | .25    |
| 33860..... | .20    |

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**MOUTHPIECE TELEPHONE**

| Piece No.               | Price Each |
|-------------------------|------------|
| 29779 Less than 50..... | \$0.20     |
| 50 to 200.....          | .17        |
| 200 and over.....       | .15        |
| 34419 Less than 50..... | .20        |
| 50 to 200.....          | .17        |
| 200 and over.....       | .15        |
| 38191.....              | .35        |
| 49363.....              | .35        |

**Operators**

|            |             |
|------------|-------------|
| 29776..... | Each \$0.50 |
|------------|-------------|

**Receiver Shells**

| No.        | Price Each |
|------------|------------|
| 27944..... | \$0.50     |
| 32307..... | .25        |

**WEIGHTS—CORD**

|         |        |
|---------|--------|
| 4.....  | \$0.40 |
| 6.....  | 1.25   |
| 7.....  | 1.00   |
| 8.....  | 1.00   |
| 9.....  | .35    |
| 10..... | 1.00   |

## Notice!

This Condensed Apparatus Price List is based upon our Catalogue Number 7, which is a complete listing of all Kellogg products. If you do not have a copy of this catalogue, kindly advise us promptly so that we may send you one.



### KELLOGG SWITCHBOARD & SUPPLY COMPANY

Main Factory and General Offices:

1066 W. Adams St., Chicago

Branch Offices and Warehouses:

Columbus, Ohio  
163 N. Fourth St.

Kansas City, Mo.  
308 W. 6th St.

Portland, Ore.  
40-42 E. Seventh St.

San Francisco, Calif.  
1054 Mission St.

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*Use—Is the Test*

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# KELLOGG

**USE** — is the Test

## *Kellogg General Catalog 7, 1926*

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As the purpose of this scanning project is to provide research material for telephone collectors the line supplies section of this catalog has been omitted from the scan. Also omitted are select pages of lever switches and other miscellaneous parts.

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